

1913.



City and County of Bristol.

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# Annual Report

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OF THE

Medical Officer of Health,

INCLUDING

REPORT of the TUBERCULOSIS OFFICER,

AND

Report of the Resident Medical Officer

:: Ham Green Hospital ::

and Sanatorium.

—:O:—

*Printed by Order of the Health Committee.*

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BRISTOL:

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8206

# HEALTH COMMITTEE,

1913.

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*The Right Honourable The Lord Mayor :*

ALDERMAN JOHN SWAISH, J.P.

*Chairman :*

Councillor COLSTON WINTLE, M.R.C.S.

*Deputy Chairman :*

Councillor FRANK MOORE.

*Aldermen—*

HENRY ANSTEY, J.P.,  
(Chairman of Port Sanitary  
Sub-Committee)

WILLIAM TERRETT.

*Councillors—*

E. M. DYER,

A. E. HILL,

H. J. MAGGS,  
(Chairman of Finance  
Sub-Committee).

S. T. MARTIN,

*Councillors—*

J. J. MILTON,

F. E. PEAKE, M.R.C.S.,

W. SAISE, D.Sc.

(Chairman of Housing of the  
Working Classes  
Sub-Committee).

J. S. G. W. STROUD,

G. THOMPSON,

C. J. THORNE,

G. S. WILMOTT.

# CITY OF BRISTOL.

## Health Department, 1913.

*Medical Officer of Health* : D. S. DAVIES, M.D., L.L.D., D.P.H.

*Chief Inspector* : J. W. KIRLEY.

*Superintendent Inspector* : †\*T. LOWTHER.

*Housing Inspector* : \*†§A. W. GRIFFITHS.

### *District Inspectors (12) :*

G. E. BUSH	Bedminster, W.	*†§T. J. CROFTS,	St. Philip
*H. HASELL	Horfield	*F. KIRLEY,	Stapleton and
*J. WILKINSON,	Clifton		St. George, N.W.
*H. J. KIRLEY,	Cotham	*G. BEST,	Westbury-on-Trym
*†F. R. SLADE,	St. Paul	*E. J. BURR,	Avonmouth
*†A. E. KING	Knowle and	*†J. B. PASKE	St. George E.
	Bedminster E.	*§A. E. HALL	St. George, S.W. and Redcliffe

*Inspector of Common Lodging Houses and Bakehouses* : \*S. O. DIMOND.

*Inspector of Dairies, Cowsheds and Milkshops* : \*†H. C. LEAT.

*Inspectors of Slaughter Houses, Meat and Fish* :

S. THOMAS and \*§A. GITSHAM.

*Inspector of Workshops, &c.* : \*W. J. WREFORD.

*Inspector of Tenement Houses* : \*†F. CLIFFORD.

*Lady Health Visitors* : { Miss DIMOND, C.M.B., H.V.CERT., R.S.I.  
Miss HARRIS, C.M.B.

*Chief Clerk* : L. W. A. STATTON. | *Statistical Clerk* : W. N. BROWN.

*Clerks* : { C. W. M. VINCENT, E. E. MASTERS, J. G. WATSON, H. DAVIS,  
F. D. SAINSBURY, E. M. HISCOX, C. BRYANT, W. G. HOBBS,  
L. F. ROBERTS, F. N. BUDD.

## City Hospitals :

*General Medical Superintendent (Supervisory)* :

D. S. DAVIES, M.D.

*Visiting Medical Officer at Novers Hill Hospital* : G. C. PAULI, M.R.C.S.

*Resident Medical Officer at Ham Green Hospital* :

B. A. I. PETERS, B.A., B.C., M.D., D.P.H.

## Bristol Municipal Tuberculosis Dispensary :

*Tuberculosis Officer* : C. J. CAMPBELL FAILL, M.R.C.P. (Edin.)

*Tuberculosis Nurses* :—Miss THOMSON, Miss STEER.

*Clerk* : F. R. MADDOCKS.

## Port of Bristol :

*Port Medical Officer of Health* : D. S. DAVIES, M.D.

*Assistant Port M.O.H.* : J. C. HEAVEN, M.R.C.S., D.P.H.

*Chief Port Inspector* : S. O. DIMOND.

*Port Inspector* : A. DICKENS.

*Assis:ant Port Inspector and Boatman* : W. GOUGH.

*Inspector of Foods* : \*||J. A. ROBINSON.

*Master of Port Sanitary Launch* :

‡ Surveyor's Certificate Sanitary Institute. \*Inspector's Certificate Sanitary Institute. †Registered Plumber. §Meat Certificate, Sanitary Institute.  
|| London Inspector's Examining Board Certificate; Meat Certificate Sanitary Institute: Meat Certificate, Liverpool University.

# ANNUAL REPORT.

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## PART I.

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### CITY AND COUNTY OF BRISTOL.

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#### Site and Soil.

Bristol is situated in N. Lat.  $51^{\circ} 27$  ft. 6·3 ins., and W. Long  $2^{\circ} 35$  ft. 28·6 ins. The old city lies in great part on low ground in a broad valley lined by the alluvial deposit of the Avon, and its tributary the Frome ; parts of the city, *e.g.*, High Street and Redcliff, being upon higher ground on the new red sandstone (trias), through which rock the New Cut or artificial course of the Avon has been made, and upon which Bedminster is built.

The high table-land of Clifton, Cotham, and Redland, to the north and west of the City, is situated upon the denuded edges of an anticlinal arch of carboniferous rocks, upon which, in certain limited areas, beds of newer formation (*e.g.*, lias), lie unconformably. On Clifton and Durdham Down the carboniferous limestone is exposed over a large area ; and here the gorge of the Avon, cut by the river as it turns to the north to join the Severn, forms the western boundary of the district.

The steep ascents, extending from Granby Hill on the west, past Brandon Hill to St. Michael's Hill and Marlborough Hill on the east, are on the outcrop of the millstone grit.

Considerable portions of the north-east and east parts of the City lie upon the new red sandstone, while Totterdown, part of Cotham, and the slope towards Ashley are upon beds of lias limestone.

### WEST OF ENGLAND.\*

The mean temperature of the western group of climates during the winter is rather lower than that of the south coast, but in March and April rises a little higher. Bath and Bristol, during the months of November and December, are nearly  $3^{\circ}$  warmer than London. In January and February they do not average  $1^{\circ}$  warmer; in March, Bath and Cheltenham are rather colder than London, but Bristol continues from one to two degrees warmer during March as well as April. On comparing Penzance with this tract, we find only  $1^{\circ}$  of difference in the mean annual temperature. In winter, however, Penzance is  $4^{\circ}$  warmer, but in the spring and summer it is somewhat colder. The distribution of heat throughout the year is more unequal in this district than in the others, the difference of the warmest and coldest months being  $28^{\circ}$ , while it is only  $26^{\circ}$  at London,  $21^{\circ}$  at Gosport,  $20^{\circ}$  at Torquay, and  $18^{\circ}$  at Penzance. We find, also, that the range of temperature for the day and the month is considerably more than on the southern and south-western coasts, and the Land's End; the minimum term of temperature being from  $3^{\circ}$  to  $5^{\circ}$ , and even  $6^{\circ}$  lower than at some of these places. In steadiness of temperature from day to day, it nearly corresponds with the south coast, but is inferior to that of South-Devon, and considerably so to Penzance.

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\* From Sir James Clark's "Climate."

## CLIFTON.

In this tract of country the vale of Bristol appears to be the mildest and most sheltered spot. The climate during the winter is mitigated by the vicinity of the great western ocean, while its land-locked situation protects it from the winds of that quarter. To those from the south-east it is fully open. The fall of rain in this district is less than from its western position might have been expected. The mountain ranges which flank the country bordering the Bristol Channel—those of Wales on the north, and those of Cornwall and Devonshire on the south, by modifying the course of the clouds from the Atlantic, appear to diminish the fall of rain in the intervening space. There is reason to believe, also, that this is even less at Bristol than the average of the surrounding district, a circumstance which may be accounted for, partly by its protection from westerly winds, and partly from its position with respect to the course of the Severn and its extensive estuary, from the nearest part of which Bristol is distant about five miles, and is, at the same time, completely shut out from it by the intervening high land. But however the circumstance may be explained, the fall of rain is absolutely less here than in Devonshire and Cornwall, and much the same as that on the south coast.

The surrounding hills are composed chiefly of limestone, and this circumstance tends further to diminish the humidity of the atmosphere.

Clifton and its immediate neighbourhood afford a considerable variety in point of shelter and elevation of site. The town is built on the southern declivity of a hill, at the bottom of which is situated the Bristol Hotwells. Here, and in the lower parts of Clifton, the most sheltered situations are to be found. And, accordingly, consumptive and other delicate invalids should seek the more



protected spots in this quarter during the winter: while those requiring less shelter may reside on the higher but still sheltered parts of Clifton. The crescentic forms of the buildings in this place are singularly well adapted to the situation, as they afford protection to so many terraces, well suited for exercise during the prevalence of northerly winds. In the lower grounds there are also some sheltered walks, and towards the park several rides and foot-paths which are tolerably defended from northerly winds. When the weather is sufficiently mild to admit of the invalid going to some little distance from home, few places present more beauty or variety. The whole parish of Clifton is indeed well described by the late Dr. Chisholm, as "a beautiful and romantic assemblage of woods, rock, water, pasture and down. It seems indeed singularly well adapted to the maintenance of health; the soil resting on immense beds of limestone rock, exposed to the southerly and westerly winds, for nearly three-fourths of the year; with an atmosphere elastic, vivifying—not humid." The surrounding country is healthy, being free from everything like marsh.

### **Population and Acreage.**

The estimated population of the City at the middle of 1913 was 361,362 persons, upon an area of 17,460 acres.



TABLE A.\*\*

**Showing Population, Acreage, and number of Persons per acre (Density) in each of the Registration Sub-Districts of Bristol for 1891, compared with the same data for 1913.**

Registration Sub-Districts, 1891. (Census Year.)	Acreage	Population middle of 1891	Density 1891	Registration Sub-District 1913.	† Acreage.	Estimated Population 1913	Density 1913
St. Mary Redcliff	170	9,287	54·6	‡  **Bristol Central	719	36,747	51·1
Castle Precincts	119	5,558	46·7				
St. Paul - -	148	19,046	128·6				
St. James - -	68	7,817	114·9				
St. Augustine -	250	13,788	55·1	**Bedminster -	1,952	62,186	31·8
Bedminster - -	992	45,812	46·1	Knowle -	1,108	21,952	19·8
				**Clifton -	1,269	41,503	32·7
Clifton - -	921	29,361	31·8	Ashley -	2,157	48,718	22·5
Ashley - -	434	24,190	55·7				
Westbury - -	692	15,540	22·4	**St. George -	1,994	59,640	29·9
				**St. Philip -	604	49,973	82·7
S. Philip - -	744	51,650	69·6	Stapleton -	2,573	27,336	10·6
				Westbury-on Trym -	5,084	13,307	2·6
Bristol City, 1891	4538	222,049	48·93	Bristol City, 1913	*17,460	361,362	20·69

\* Ordnance calculation, including water areas.

† Census, 1911.

‡ The Registrar General of Births, Deaths and Marriages, ordered and declared, that on and after 1st April, 1904, St. Augustine Sub-District shall be united with St. Paul Sub-District, and the enlarged Sub-District so formed, shall be called and known as St. Paul and St. Augustine Sub-District.

|| The Registrar General of Births, Deaths and Marriages, ordered and declared, that on and after 1st December, 1905, the St. Mary Redcliff Sub-District shall be united with St. Paul and St. Augustine Sub-District, the enlarged Sub-District to be called and known as Bristol Central Sub-District.

\*\* Considerable alterations were again made in the Registration Sub-Districts in April, 1909.

## CITY OF BRISTOL.

Population, estimated to the middle of 1913.

Registration Sub-Districts.				Estimated Population.
Clifton	...	...	...	41,503
Bristol Central	...	...	...	36,747
Bedminster	...	...	...	62,186
Knowle	...	...	...	21,952
St. George	...	...	...	59,640
St. Philip...	...	...	...	49,973
Stapleton...	...	...	...	27,336
Ashley	...	...	..	48,718
Westbury-on-Trym			...	13,307
Total				361,362

POPULATION AT GROUPS OF AGES.						
				Persons.	Males.	Females.
All Ages	...	...	...	361,838	165,546	195,813
Under 5 years	...	...	...	35,838	18,053	17,785
5 and under	10	...	...	36,522	18,205	18,317
10	..	15	...	35,998	17,700	18,298
15	..	20	...	35,855	16,251	19,604
20	..	25	...	32,131	13,236	18,895
25	..	30	..	29,966	12,985	16,981
30	..	35	...	28,567	12,835	15,732
35	..	40	...	25,928	11,960	13,968
40	..	45	...	22,541	10,358	12,183
45	..	50	...	19,229	8,810	10,419
50	..	55	..	15,655	6,946	8,709
55	..	60	...	12,553	5,612	6,941
60	..	65	...	10,375	4,598	5,777
65	..	70	...	8,612	3,720	4,892
70	..	75	...	5,811	2,269	3,542
75	..	80	...	3,354	1,275	2,079
80 years and upwards...				2,427	736	1,691

NOTE.—The above figures are calculated from the age distribution as returned at the Census of 1901. Age statistics for the recent Census are not available.

(Figures supplied from the Registrar General's Office.)

## CENSUS RESULTS—1911.

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The total population in the registration district of Bristol at the 1911 census was 357,059, as compared with 339,042 in 1901, an increase of 18,017.

### The Sub-Districts.

The comparative figures for the nine registration sub-districts, as given in the preliminary report of the Registrar-General, are as follows:—

	1901.	1911.	Inc.	Dec.
Clifton ... ..	46,445	42,466	—	3,979
Bristol Central ... ..	45,662	38,485	—	7,177
Bedminster ... ..	56,959	61,176	4,217	—
Knowle ... ..	12,645	20,150	7,505	—
St. George ... ..	53,629	58,478	4,849	—
St. Philip and St. Jacob	51,225	50,215	—	1,010
Stapleton ... ..	21,236	26,149	4,913	—
Ashley ... ..	41,790	47,378	5,588	—
Westbury-on-Trym	9,451	12,562	3,111	—
			30,183	12,166
Totals	339,042	357,059	18,017 increase	

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### Changes since 1901 Census.

It is necessary to explain that in some cases the changes are accounted for by alterations effected in the areas of the sub-districts between 1910 and 1911. St. Augustine's has been taken away from Bristol Central and added to Clifton, the Redland Ward has been transferred from Clifton and added to the Ashley sub-district, and St. James and St. Paul have been taken out of the Ashley district and added to the Central. These are some of the changes made. But so far as Knowle, Bedminster, St. George and Stapleton are concerned, the increases are genuine, and show that during the past ten years there have been considerable developments in those portions of the City.

### How the Sub-Districts are Constituted.

An explanation as to the constitution of the sub-districts may be added. In the Clifton sub-district are comprised the municipal wards of Clifton North and South, and St. Michael and St. Augustine ; Bristol Central is made up of the wards of St. Paul, St. James, Central East, Central West, and Redcliff ; Bedminster consists of Bedminster East and West, and Southville Wards ; Knowle, of the Somerset Ward ; St. George, of St. George's East and West, and No. 2 polling district of Easton Ward ; St. Philip and Jacob, of St. Philip and Jacob North and South Wards, and No. 1 polling district of Easton Ward ; Ashley, of the Horfield District and Redland Wards ; Stapleton, of the Stapleton Ward ; and Westbury-on-Trym, of the municipal ward bearing that name.

## COUNTY BOROUGH OF BRISTOL.

**Return of the Occupations of Males and Females  
aged 10 Years and upwards.**

## SUMMARY OF THE CENSUS (1911) RETURN.

	Males.	Females.
Retired or Unoccupied (Order XXIII.)...	... 23,292	98,649
Engaged in Occupations (Orders I.—XXII.)	... 104,456	59,156
Total Occupied and Unoccupied	... 127,748	157,805

## GENERAL LIST OF OCCUPATIONS

## AT AGES 10 AND UPWARDS.

				Total Males	Total Females
I.—GENERAL OR LOCAL GOVERNMENT OF THE COUNTRY.					
1	National Government	...	...	1,530	274
2	Local Government	...	...	1,061	162
II.—DEFENCE OF THE COUNTRY.					
1	Army (at Home)	...	...	408	—
2	Navy and Marines (Ashore and in Port)	...	...	142	—
III.—PROFESSIONAL OCCUPATIONS AND THEIR SUBORDINATE SERVICES.					
1	Clerical.				
	Clergymen, Priests, Ministers	...	...	357	—
	Others	...	...	175	227
2	Legal.				
	Barristers, Solicitors	...	...	196	—
	Law Clerks	...	...	390	27
3	Medical.				
	Physicians, Surgeons, Registered Practitioners,			249	4
	Midwives, Sick Nurses, Invalid Attendants	...	...	11	1,217
	Others	...	...	186	28
4	Teaching	...	...	864	1,911
5	Literary, Scientific and Political	...	...	227	78
6	Engineers and Surveyors	...	...	106	—
7 and 8	Art, Music, Drama, etc.	...	...	946	716

## LIST OF OCCUPATIONS—CONTINUED.

		Total Males	Total Females
IV. DOMESTIC OFFICES OR SERVICES.			
1	Domestic Indoor Service.		
	In Hotels, Lodging and Eating Houses ...	72	764
	Other Domestic Indoor Servants ...	139	11,474
2	Domestic Outdoor Service ...	876	—
3	Other Service.		
	Hospital, Institn. & Bencvolent Socy. Service	187	570
	Day Girls, Day Servants ...	—	384
	Charwomen ...	—	1,720
	Laundry Workers : Washers, Ironers, Manglers, &c.	85	2,078
	Others ...	608	500
V.—COMMERCIAL OCCUPATIONS.			
1	Merchants, Agents and Accountants ...	2,733	44
	Commercial Travellers ...	1,885	10
2	Commercial or Business Clerks ...	5,358	1,432
3 and 4	Dealers in Money : Insurance ...	1,892	96
	Life, House, Ship, etc. Insurance — Officials, Clerks, etc.	754	75
	Insurance Agents ...	708	5
VI.—CONVEYANCE OF MEN, GOODS AND MESSAGES.			
1	On Railways ...	3,856	12
2	On Roads.		
	Coachmen (not Domestic) ; Cabmen ...	229	—
	Horsekeepers, Grooms, Stablemen (not Domestic)	359	—
	Motor Car Drivers (not Domestic) ; Motor Cab, Motor Van, etc.—Drivers	269	—
	Carmen, Carriers, Carters, Wagoners (not Farm)	3,575	1
	Van, etc.—Guards, Boys ...	141	—
	Others ...	1,455	9
	Tramway Service ...	1,024	—
3	On Seas, Rivers and Canals ...	2,420	5
	Merchant Service ; Pilots ; Boatmen on Seas	2,119	4
4	In Docks, Harbours, etc. ...	3,200	—
	Dock Labourers, Wharf Labourers ...	2,863	—
5	In Storage, Portorage, and Messages.		
	Messengers, Porters, Watchmen (not Railway or Government)	2,807	27
	Others ...	416	91
VII.—AGRICULTURE (ON FARMS, WOODS AND GARDENS.)			
	Farmers, Graziers ; Farm Workers ...	455	22
	Gardeners (not Dom.) ; Nurserymen, Seedsmen	977	67
	Others ..	17	—
VIII.—FISHING			
	... ..	6	—



## LIST OF OCCUPATIONS—CONTINUED.

				Total Males	Total Females
IX.—IN AND ABOUT, AND WORKING AND DEALING IN THE PRODUCTS OF, MINES AND QUARRIES.					
1	Workers	...	...	2,132	4
	Coal & Shale Mine—Workers at the Face	...	...	1,058	—
	Ditto Other Workers below ground	...	...	534	—
	Ditto Workers above ground and Mine Service.	...	...	212	—
2	Dealers	...	...	350	29
X.—METALS, MACHINES, IMPLEMENTS & CONVEYANCES.					
1 and 2	Iron, Steel, etc., Manufacture	...	...	520	—
	Galvanized Sheet Manufacture	...	...	246	—
	Lead Manufacture	...	...	207	—
3	General Engineering and Machine Making.				
	Ironfounders	...	...	476	—
	Blacksmiths, Strikers	...	...	1,007	—
	Erectors, Fitters, Turners (including labourers)	...	...	1,192	—
	Others	...	...	1,780	5
4	Electrical Apparatus	...	...	450	1
5—8	Tools, Dies, &c. ; Arms ; Misc. Metal Trades...	...	...	2,493	185
	Tinplate Goods Makers	...	...	463	25
	Sundry Iron Goods Makers	...	...	1,323	49
9	Ships and Boats	...	...	304	—
10	Vehicles.				
	Cycle and Motor Car—Makers, Mechanics	...	...	1,018	10
	Others	...	...	1,110	5
11	Dealers	...	...	587	85
XI.—PRECIOUS METALS, JEWELS, WATCHES, IN- STRUMENTS AND GAMES.					
	Workers	...	...	704	73
	Dealers	...	...	194	72
XII. BUILDING AND WORKS OF CONSTRUCTION.					
1	House Building, etc.				
	Builders	...	...	360	2
	Builders' Labourers	...	...	707	—
	Carpenters, Joiners (including Labourers)	...	...	1,861	—
	Bricklayers, Bricklayers' Labourers	...	...	785	—
	Masons, Masons' Labourers	...	...	1,131	—
	Masons' Labourers	...	...	519	—
	Painters, Decorators, Glaziers	...	...	2,554	—
	Plumbers	...	...	760	—
	Others	...	...	525	—
2	Other Works of Construction and Roads.				
	Navvies, etc. ; Paviours, Road Labourers	...	...	285	—
	Others	...	...	25	—

## LIST OF OCCUPATIONS—CONTINUED.

				Total Males	Total Females
XIII.—WOOD, FURNITURE, FITTINGS, DECORATIONS.					
	Cabinet Makers, French Polishers, Upholsterers			1,517	109
	Cabinet Makers	...	...	827	1
	Other Workers in Furniture, Fittings, etc.	...	...	645	47
	Workers in Wood and Bark	...	...	1,780	129
	Sawyers; Wood Cutting Machinists	...	...	754	1
	Dealers	...	...	530	105
XIV.—BRICK, CEMENT, POTTERY AND GLASS.					
	Workers	...	...	841	164
	Dealers	...	...	109	54
XV.—CHEMICALS, OIL, GREASE, SOAP, RESIN, &c.					
1 and 3.	Colouring Matter; Drugs, Chemicals, &c.				
	Chemists, Druggists	...	...	344	51
	Others	...	...	650	78
2	Explosives and Matches	...	...	17	31
4	Oil, Grease, Soap, Resin, &c.				
	Workers	...	...	1,393	165
	Oil—Millers, Refiners; Oil Cake Makers	...	...	662	16
	Soap—Boilers, Makers	...	...	304	22
	Dealers	...	...	219	29
XVI.—SKINS, LEATHER, HAIR AND FEATHERS.					
1	Skins and Leather	...	...	670	35
	Tanners	...	...	477	—
2	Saddlery and Harness	...	...	187	18
3	Hair and Feathers	...	...	213	154
	Brush, Broom—Makers; Hair, Bristle—Workers			210	138
4	Dealers in Skins, Leather, Hair and Feathers	...	...	185	23
XVII.—PAPER, PRINTS, BOOKS AND STATIONERY.					
	Paper Box, Bag—Mkrs.; Stationery Manufacture			566	3,571
	Paper Bag Makers	...	...	75	641
	Cardboard Box Makers	...	...	256	2,387
	Printers, Lithographers	...	...	2,784	498
	Bookbinders	...	...	154	247
	Other Workers	...	...	154	122
	Publishers, Booksellers, Stationers, News- agents, and other Dealers.			587	397



## LIST OF OCCUPATIONS—CONTINUED.

				Total Males	Total Females
XVIII.—TEXTILE FABRICS.					
1—5	Textile Manufactures ... ..			426	1,341
	Cotton—Spinning (including Card and Blowing Room) Processes			74	286
	Weaving Processes ... ..			25	575
	All Other Processes and Undefined ...			137	149
6	Bleaching, Printing, Dyeing, etc. ... ..			77	49
7	Dealers (Drapers and Others) ... ..			786	1,342
XIX.—DRESS.					
	Tailors ... ..			1,898	5,032
	Milliners ... ..			6	825
	Dressmakers ... ..			11	3,446
	Shirt Makers, Seamstresses ... ..			23	569
	Boot, Shoe, Slipper, Patten, Clog—Makers ...			3,648	1,089
	Wig Makers, Hairdressers ... ..			516	59
	Other Workers ... ..			264	1,651
	Stay, Corset—Makers ... ..			165	1,406
	Dealers ... ..			880	464
XX.—FOOD, TOBACCO, DRINK AND LODGING.					
1	Food				
	Milksellers, Dairymen ... ..			755	186
	Butchers, Meat Salesmen ... ..			1,176	151
	Bread, Biscuit, Cake, &c.—Makers ... ..			980	45
	Bakers, Confectioners (Dealers) ... ..			528	629
	Grocers ; Tea, Coffee, Chocolate—Dealers ...			1,591	533
	Other Workers ... ..			2,200	3,032
	Millers ; Cereal Food Manufacture ... ..			382	52
	Chocolate, Cocoa—Makers ... ..			1,330	2,638
	Other Dealers ... ..			1,553	524
2	Tobacco—Tobacco Manufacture .. ..			1,571	3,965
	Tobacconists ... ..			135	146
3	Makers of Spirituous Drinks ... ..			464	1
4	Board, Lodging and Dealing in Spirituous Drinks.				
	Coffee, Eating, Lodging, Boarding—House Keepers.			292	989
	Inn, Hotel—Keepers, Publicans, &c. ... ..			776	675
	Cellarmen ; Beer Bottlers ... ..			245	45
	Barmen ... ..			224	174
	Waiters (not Domestic) ... ..			170	269
	Others in Inn, Hotel, Eating House, &c.— Service.			191	153
	Wine and Spirit—Merchants, Agents ... ..			105	8

## LIST OF OCCUPATIONS—CONTINUED.

				Total Males	Total Females
XXI.—GAS, WATER, AND ELECTRICITY SUPPLY, AND SANITARY SERVICE.					
1	Gas, Water, Electricity	...	...	827	—
2	Sanitary Service	...	...	458	—
XXII.—OTHER, GENERAL, AND UNDEFINED WORKERS AND DEALERS.					
	General—Shopkeepers, Dealers, Pawnbrokers			650	823
	Costermongers, Hawkers, Street Sellers	...		582	196
	News—Boys, Vendors (Street or Undefined)			172	2
	General Labourers	...	..	2,964	—
	Engine—Drivers, Stokers, Firemen (not Rail- way, Marine or Agricultural)			817	—
	Others	...	...	720	305
XXIII.—WITHOUT SPECIFIED OCCUPATIONS OR UNOCCUPIED.					
	Retired (not Army or Navy) Pensioners	...		4,432	1,170
	Private Means	...	...	503	4,416
	Others aged 10 years and upwards (including Scholars and Students)			18,357	93,063

# POOR LAW RELIEF.

19

BRISTOL UNION.—Summary of Persons relieved on the following dates : the first named date (1st April, 1898)  
being the date of the formation of the Union for the City and County of Bristol.

	1st April, 1898	1st April, 1899	1st April, 1900	1st April, 1901	1st April, 1902	1st April, 1903	1st April, 1904	1st April, 1905	1st April, 1906	1st April, 1907	1st April, 1908	1st April, 1909	1st April, 1910	1st April, 1911	1st April, 1912	1st April, 1913	1st April, 1914
In Workhouses and Children's Homes ..	2,357	2,281	2,305	2,408	2,355	2,388	2,513	2,578	2,528	2,653	2,745	2,855	2,944	2,874	2,927	2,758	2566
In Institutions, &c...	114	116	127	127	148	155	149	159	146	148	135	125	123	139	131	167	168
In Lunatic Asylums..	826	824	810	830	847	856	859	869	875	881	863	831	859	883	867	849	881
Out-door Poor ..	7,796	6,409	5,847	5,837	5,845	5,829	6,030	6,425	6,116	5,921	5,696	5,585	5,764	4,280	4,472	4,037	3,872
	11,093	9,630	9,089	9,202	9,195	9,228	9,551	10,031	9,665	9,603	9,439	9,396	9,690	8,176	8,397	7,811	7,487
Weekly Cost of Out- Relief	£724 6 1	£683 14 11 <sup>3</sup> / <sub>4</sub>	£644 14 7	£662 18 4 <sup>3</sup> / <sub>4</sub>	£697 16 9 <sup>1</sup> / <sub>2</sub>	£710 0 10 <sup>1</sup> / <sub>2</sub>	£746 4 3 <sup>1</sup> / <sub>2</sub>	£803 19 8	£792 12 2 <sup>1</sup> / <sub>2</sub>	£765 14 11 <sup>1</sup> / <sub>2</sub>	£756 8 3	£765 13 4	£785 6 5	†£504 0 10	£589 9 8	£509 9 9	£507 18 8

\* This Union was much increased in area and population in October, 1904.

† This reduction is due to the large number of cases transferred to the Old Age Pension List.





## CITY OF BRISTOL.

**Extent to which Hospital and other forms of gratuitous medical relief were utilised during 1913.**

Number of patients treated as—

			In- Patients.	Out- Patients.
Bristol General Hospital ...	...	...	3,239	37,048
Bristol Royal Infirmary ...	...	...	5,394	42,051
Bristol Royal Hospital for Sick Children and Women ...	...	...	978	4,873
Cossham Memorial Hospital ...	...	...	347	238*
Bristol Homœopathic Hospital ...	...	...	89	1,581
Bristol Dispensary ...	...	...	—	11,800†
Clifton Dispensary ...	...	...	—	2,392
Dispensary for Ulcerated Legs ...	...	...	—	700
Eye Dispensary ...	...	...	6	2,940
Eye Hospital ...	...	...	552	17,021
Bristol Private Hospital for Women and Children ...	...	...	108	—
Lying-in Hospital and Temporary Home ...	...	...	197‡	—
Medical Missionary Dispensary ...	...	...	—	8,134
Orthopædic Hospital and Home for Crippled Children ...	...	...	44	—
Read Dispensary ...	...	...	—	2,175
Redland Dispensary ...	...	...	—	45
Voluntary Lock Hospital ...	...	...	49	—
Queen Victoria Jubilee Convalescent Home ...	...	...	1,983	—

\* Casualties.

† 397 of these were Midwifery patients.

‡ Including Infants.

**Number of Patients treated at the Hospitals and Institutions owned by the Bristol Corporation during 1913.**

			In- patients	Out- patients
Ham Green Hospital (Fevers) ...	...	...	1,108	—
Novers Hill Hospital (Small-pox or Fevers) ...	...	...	295	—
Ship Hospital, Avonmouth (Port) ...	...	...	0	—
Ham Green Sanatorium ...	...	...	109	—
Bristol Municipal Tuberculosis Dispensary, 4 Redcliffe Parade West ...	...	...	—	1,023

## WATER SUPPLY.

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### The Bristol Water Works Company.

SOURCES OF SUPPLY.—(1) Springs in the triassic conglomerates and carboniferous limestone of the Mendip Hills, 16 miles from the City. (2) The Yeo Reservoir and Richford and Langford Springs, 12 miles from City. (3) Deep Wells at Chelvey in the new red sandstone (triassic).

STORAGE RESERVOIRS.—At Barrow Gurney, where the water is filtered before delivery.

WATER SERVICE.—Constant.

AVERAGE DAILY CONSUMPTION.—Twenty-three gallons per head.

The City Analyst furnishes the following report:—

### ANALYSIS OF WATER.

Nine samples were received from the Medical Officer of Health, of which number three showed evidence of sewage pollution, one was of a suspicious character, and one was within the limits of sanitary purity.

ASSOCIATION OF MUNICIPAL AND SANITARY  
ENGINEERS, 1877.

The remarks of the late W. W. Stoddart, F.G.S., are instructive on this point.

“ The geological character of any locality will often  
“ determine the probable purity or impurity of a well, and  
“ our City is pre-eminently an example of this. In Clifton  
“ and Kingsdown we have thick and impervious beds,  
“ dipping to the North-east at an angle of  $30^{\circ}$  to  $70^{\circ}$ ; in  
“ the Parish of St. Paul we have horizontal beds of porous  
“ triassic sands; in St. Philip’s we have alluvial beds of  
“ peat and gravel; while in the outlying districts of  
“ Stapleton and Fishponds are thick layers of pennant  
“ rock, so broken up by innumerable fissures, that every  
“ well is full of surface water. Bristol, from the rapid dip  
“ of its fundamental strata, from an altitude of 300 feet  
“ above to 20 feet below the mean sea level, at an angle  
“ of 30 to 50 degrees, may be considered unusually well  
“ situated for drainage purposes, yet this very character  
“ is the worst possible one for the purity of our well water.  
“ No well, especially those in the low-lying parts of the  
“ City, is free from liability to sewage contamination from  
“ the great hydraulic and lateral pressure.

“ The water-bearing strata may be divided into four  
“ kinds :—

- “ 1.—Where the beds dip greatly and are quite imper-  
“ vious to the passage of water except through  
“ their joints and divisions.
- “ 2.—Where the beds dip greatly, but are fissured in  
“ all directions.
- “ 3.—Where the beds are horizontal and impervious.
- “ 4.—Where the beds are horizontal and pervious.

“ As an example of the first condition we may instance  
“ the silicious beds of the millstone grit that form the  
“ northern boundary from Brandon Hill to Cotham. The



“water flows *between* the strata, bringing with it, comparatively unchanged, all that the water has dissolved from the surface of the ground.

“On the West side of Brandon Hill are two copious springs, only separated from each other by a few feet of millstone grit. Each of them is abundantly supplied by water from Clifton and Durdham Down, and may at any time be influenced by the extension of buildings and any other sources of contamination that impinge on the strike of the beds between which the water flows.”

Mr. Stoddart here gives an example of a well in King Square, polluted from premises on Kingsdown Parade, the pollution following the dip of the beds, and instances the well water in the former priory of St. James, at one time good, before Kingsdown was built upon, but now much polluted by the sewage of these higher levels.

As to the water supply of Horfield and Bedminster, Mr. Stoddart goes on to say:—

“The triassic beds of limestone are nearly horizontal, and divided by stiff clays and schists, and form a very doubtful medium for a good supply of potable water. The only exit for rain that has fallen upon and dissolved plentifully the organic impurity, is between the limestone rock and the clay parting.

“The wells of the centre of Bristol and St. Paul’s are on strata both horizontal and porous. The centre of the city is composed of beds of sand, gravel and peat, more than 200 feet in thickness, deposited upon the coal measures that reach the Mendips. They are so much below the level of the sea that they are always subject to tidal infiltration, bringing with it whatever sewage it may meet.

“In the Parish of St. Paul, the ground is composed entirely of porous Keuper sands and marls, that rest upon the millstone grit. They are so porous that, if they are penetrated for making sewers, the whole of the wells in the immediate vicinity are drained. Indeed, there are a great many wells that are quite dry from a few having been sunk to a greater depth.”







### **Sewerage, Drainage, Scavenging, etc.**

All these matters are reported upon annually by the City Engineer to the Sanitary Committee, and the Report is published.

### **Parks and Open Spaces.**

The Parks and Open Spaces available for the recreation of the people comprise in all 801 acres, including Clifton and Durdham Downs, which have a combined area of 442 acres.

Of the 801 acres, 358 are laid out as parks, gardens, or playgrounds; but the public has the right to wander over about 603 acres. Cricket pitches are allowed on Durdham Down and in five of the Parks, where also Bowling Greens and Tennis Courts have been laid out. In two parks lakes are provided with boats. The annual cost of the Parks and Open Spaces is about £7,000.

### **Medical Inspection in Public Elementary Schools.**

The number of children attending the Board Schools in September, 1897, before the extension of the City, was 18,077, and attending other schools was 21,868; or a total of 39,945. In 1898 the City was enlarged, a further enlargement took place in 1904, and by the 1st January, 1914, the total number of scholars on the registers of the schools controlled by the Education Committee was 59,772.

		No. of Schools.	No. of Children on Registers.
Council Schools	...	44	39,254
Church of England Schools	...	40	17,571
Wesleyan School	...	1	669
Roman Catholic Schools	...	5	1,597
Schools for Mentally and Physically Defective	...	3	409
Industrial Schools	...	2	175
Deaf Institution	...	1	53
Semi-Deaf Class	...	1	20
Semi-Blind Class	...	1	24
		<hr/> 98	<hr/> 59,772

Since 1905 the Education Committee have excluded children under five years of age from certain schools.

In some of the poorer districts, however, children under five are admitted.

The number of children under eight years of age on the registers of the Public Elementary Schools on 31st January, 1914, was 21,827, and of that number 3,390 were under five years of age.

Medical Inspection of school children (as required by the Board of Education) has been provided by the Education Committee, under the Education (Administrative Provisions) Act, 1907, independently of the Health Committee.

The City has been divided into five districts, to each of which a part-time Medical Officer, in general practice, has been appointed; and arrangements are made for these to devote as much time to the work as is necessary to encompass the requisite number of inspections. In 1910 Dr. Green was appointed School Medical Officer.

The work was commenced on September 1st, 1908, the first month being utilised in a general survey, to discover cases of under-feeding in some of the poorest districts, in view of the scheme for providing meals since adopted by the Committee.

Two whole-time School Health Visitors or Nurses have been appointed, each taking one of the two school groups into which the schools in the City have been divided. These Nurses are chiefly engaged, under medical instructions, in attending to dirty heads, discharging ears, and general conditions of cleanliness; they also visit the homes, and advise the parents.

The School Medical Officer now makes a detailed examination of the hygienic condition of the schools.

The School Medical Officer issues a separate report.



## Hygienic Conditions of the School Buildings.

(Note by Dr. Green, School Medical Officer.)

A general supervision of the hygienic condition of school buildings still continues to be exercised by the School Medical Inspectors and myself. Any defects noted by Medical Inspectors on visits to schools are reported to me.

The St. Philip's Voluntary Girls' and Infants' and the Marlborough Hill Infants' Schools were closed during the year, the children being accommodated in neighbouring schools.

The Voluntary Managers of the St. James' Infants' School arranged for the adaptation of the premises formerly used as Boys' and Girls' Departments (closed 1910), to provide accommodation for the infants attending the school in Barton Street. The scholars were transferred on July 19th, 1913.

Structural alterations made during the year were as follows :—

### *Improved Ventilation Arrangements.*

Redcliffe Endowed Voluntary School.		
Temple Colston Girls' Voluntary School.		
Easton Girls'	Council School.	
Knowle Girls'	„	„
Knowle Infants'	„	„
Mina Road Infants'	„	„
South Street Infants'	„	„

### *Improved Lighting Arrangements.*

Temple Colston Girls' Voluntary School.

*Alterations and Repairs to Heating Arrangements.*

St. Gabriel's Infants' Voluntary School.  
 St. Paul's (Bedminster) Boys' Voluntary School.  
 Barton Hill Infants' Council School.  
 Moorfield's Mixed Council School.  
 South Street Council School.

*Additional Cloak-Room Accommodation.*

Temple Colston Infants' Voluntary School.

*New Play Shed.*

Russell Town Infants' Council School.

The Offices have been remodelled at Bedminster National Infants' School, and an extra entry to offices provided at the Air Balloon Hill Infants' Council School.

Galleries have been removed at the St. Philip's Infants' Council School, Hannah More Infants' Voluntary School, and at the Easton and Summerhill Cookery Rooms.

*Artificial Lighting Arrangements.*

Anglesea Place Girls'	Council School.
Bishop Road Girls'	„ „
Eastville Girls' and Infants'	„ „
Hotwells Girls'	„ „
Russell Town Infants'	„ „

A new bath and hot water supply has been added at Redcross Street Special School, and at Kingsdown Deaf Institution the lavatory basins have been renewed.

T. A. GREEN, M.D.,

*School Medical Officer.*



The following table shows the number of cases of notifiable Infectious diseases among children attending the Public Elementary Schools.

1913.

	1st Quarter ending March 30.	2nd Quarter ending June 20.	3rd Quarter ending Sept. 28.	4th Quarter ending Dec. 28.	Total.
Diphtheria ..	113	89	76	141	419
Scarlet Fever ..	85	99	127	824	1,135
Enteric Fever .	1	2	4	8	15
Totals ..	199	190	207	973	1,569

In addition to the 1569 children excluded from school on account of these diseases, 2,500 contacts of these children were excluded for varying periods.

The following Table shows the number of cases of Notifiable Infectious diseases among children attending the various Schools :—

Schools.			Diphtheria	Scarlet Fever	Enteric Fever.
Air Balloon Hill, (C.)	..	..	6	19	..
Alexandra Park, (C.)	..	..	3	7	1
Anglesea, (C.)	..	..	..	11	..
Ashley Down, (C.)	..	..	15	13	..
Ashton Gate, (C.)	..	..	9	14	..
Avonmouth, (V.)	..	..	7	8	..
Avon Vale, (C.)	..	..	4	38	..
Baptist Mills, (C.)	..	..	3	14	..
Barleyfields, (C.)	..	..	1	6	..
Barnard Place, (V.)	..	..	1	2	..
Barton Hill (C.)	..	..	6	50	1
Bedminster Bridge, (C.)	..	..	5	12	..
Bedminster Down, (C.)	..	..	5	3	1
Bedminster National, (V.)	..	..	5	12	..
Berkeley Place, (V.), Jacobs Wells	..	..	1	8	..
Bishop Road, (C.)	..	..	2	19	..
Castle, (C)	..	..	4	7	2
Chester Park, (C.)	..	..	..	11	..
Christ Church (V.)	..	..	1	5	..
Clifton National, Clifton Wood	..	..	8	26	..
Day Industrial, Temple Backs	..	..	..	2	..
Dr. Bell's, Fishponds Road	..	..	1	4	..
Easton, (C.)	..	..	8	19	..
Easton Road, (C.)	..	..	2	6	..
Eastville Boys' (C.)	..	..	6	8	..
Carried forward	..	..	103	324	5

Schools.		Diphtheria	Scarlet Fever.	Enteric Fever.
Brought forward	..	103	324	5
Eastville Girls' and Infants'..	..	19	20	..
Emmanuel, (V.), Lonisa Street	..	..	8	..
Fishponds College Practising School (Girls) .. .. .	..	2	11	..
Fishponds College Practising School (Infants) .. .. .	..	1	9	..
Greenbank, (C.) .. .. .	..	7	22	..
Hannah More, (V.) .. .. .	..	8	19	1
Holy Cross, R.C., (V.) .. .. .	..	3	2	..
Holy Trinity, (V.), Hotwells	..	1	4	..
Horfield, (V.) .. .. .	..	1	2	..
Hotwells, (C.), Hope Chapel Hill	..	1	5	..
Hotwells National, (V.) .. .. .	..	7	3	..
Kingsdown, (C.) .. .. .	..	8	13	..
Knowle, (C.) .. .. .	..	17	32	..
Luckwell, (C.) .. .. .	..	13	26	..
Merrywood, (C.) .. .. .	..	6	56	1
Mina Road, (C.) .. .. .	..	6	39	..
Moorfields, (C.) .. .. .	..	8	19	..
Newfoundland Road, (C.) .. .. .	..	3	25	..
North Street Wesleyan, (V.) .. .. .	..	5	14	..
Orchard Place, Stillhouse Lane	..	..	1	..
Park Place, R.C., (V.) .. .. .	..	1	3	..
Parson Street, (C.) .. .. .	..	8	14	..
Plummer's Hill, St. George .. .. .	..	..	3	..
Redcross Street, (C.) .. .. .	..	1	2	..
Redcliff Endowed, Boys, (V.) .. .. .	..	3	12	..
Carried forward	..	232	688	7

Schools.	Diphtheria.	Scarlet Fever.	Enteric Fever.
Brought forward ...	232	688	7
Redfield, (C.) ... ..	6	31	...
Rose Green, (C.) ... ..	1	12	...
Russell Town, (C.) ... ..	5	15	...
St. Anne's, (C.) ... ..	2	12	...
St. Augustine's, (V.), Wells Street ...	3	...	...
St. Barnabas, (V.) ... ..	5	24	...
St. Bonaventure's, R.C., (V.)... ..	...	1	...
St. Gabriel's, (V.), Easton ... ..	5	26	...
St. George, (C.) ... ..	...	2	...
St. George National, (V.) ... ..	...	2	...
St. George's, (V.), Brandon Hill ...	6	5	...
St. James, (V.), St. James' Barton ...	...	2	...
St. Jude's, (V.) ... ..	...	2	...
St. Luke's, (V.), Barton Hill ... ..	1	2	...
St. Luke's, (V.), Weare Street ... ..	3	14	...
St. Luke's Institute, (V.), William Street... ..	...	2	...
St. Mark's, (V.), Easton ... ..	1	11	1
St. Mary Redcliffe, Girls' and Infants', (V.)... ..	8	9	...
St. Mary-on Quay, R.C., (V.) ... ..	2	3	1
St. Matthias, (V.), Broad Weir ... ..	2	3	3
St. Michael's, (V.) ... ..	...	4	...
St. Nicholas, R C., (V.) ... ..	4	4	1
St. Nicholas and St. Leonard s, (V.) ...	2	1	...
St. Paul's, (V.), Dean Lane ... ..	4	16	...
St. Paul's, (V.), Wilson Street ... ..	...	3	...
Carried forward ...	292	894	13

Schools.				Diphtheria	Scarlet Fever.	Enteric Fever.
Brought forward ..				292	894	13
St. Philip's, (C.), Freestone Road ..				2	9	..
St. Philip's Church, (V.) ..				1	..	..
St. Saviour's, (V.), Woolcott Park ..				1	1	..
St. Silas, (V.), St. Philip's Marsh ..				..	13	2
St. Simon's, (V.), Baptist Mills ..				..	19	..
Sefton Park, (C.) .. ..				4	15	..
Shirehampton, (V.) .. ..				6	..	..
South Street, (C.) .. ..				8	29	..
Stapleton, (V.) .. ..				1	..	..
Summerhill, (C.) .. ..				7	35	..
Sussex Street, (C.) .. ..				1	5	..
Two Mile Hill, (C.) .. ..				8	18	..
Victoria Park, (C.), St John's Lane ..				12	6	..
Wells Road, (C.) .. ..				..	16	..
Westbury-on-Trym, (V.) .. ..				5	2	..
Whitehall, (C.) .. ..				5	21	..
Wick Road, (C.) .. ..				9	8	..
Windmill Hill, (C.) .. ..				9	14	..
Other Schools .. ..				48	30	..
TOTALS .. ..				419	1135	15

The following table shows the number of cases of non-notifiable diseases forwarded to the Medical Officer of Health.

**1913.**

	1st Quarter ending March 29.	2nd Quarter ending June 28.	3rd Quarter ending Sept. 27.	4th Quarter ending Jan. 3, 1914.	Total
Measles .. ..	274	189	49	182	694
Chicken-pox ..	212	311	65	213	801
Whooping Cough ..	122	92	43	17	274
Mumps .. ..	79	62	129	349	619
Suspicious Throats & Rashes, etc		9	1	12	22
	687	663	287	773	2,410

The following Table shows the number of cases of Non-notifiable diseases reported to the Medical Officer of Health from the various Schools:—

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Air Balloon Hill, (C) .. ..	1	..	6	2	..
Alexandra Park, (C) .. ..	..	1	..	..	..
Anglesea, (C) .. ..	31	..	4	4	..
Ashley Down, (C).. ..	1	..	59	1	..
Ashton Gate, (C) .. ..	1	..	6	3	..
Avonmouth, (V) .. ..	4	..	1	..	..
Avon Vale, (C) .. ..	29	8	4	10	..
Baptist Mills, (C.) .. ..	25	2	9	..	..
Barleyfields, (C.) .. ..	12	2	5	7	..
Barnard Place, (V.) .. ..	..	1	..	..	..
Barton Hill, (C.) .. ..	12	2	4	2	..
Bedminster Bridge, (C.) .. ..	..	13	3	1	..
Bedminster Down, (C.) .. ..	..	5	1	..	..
Bedminster National, (V.).. ..	13	3	23	18	..
Berkeley Place, (V.), Jacobs Wells ..	1	..	..	..	..
Bishop Road, (C.).. ..	7	14	58	2	..
Castle, (C.) .. ..	6	1	3	..	..
Chester Park, (C.) .. ..	..	..	6	..	..
Christ Church, (V.) .. ..	..	..	3	..	..
Clifton National, Clifton Wood ..	1	..	2	..	..
Easton, (C.) .. ..	..	..	..	3	..
Easton Road, (C.) .. ..	..	..	2	3	..
Eastville Boys', (C.) .. ..	3	..	5	5	1
Eastville Girls' and Infants' ..	5	2	2	3	..
Carried forward ..	152	54	206	64	1



Schools.		Measles.	Whooping Cough	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward	..	152	54	206	64	1
Emmanuel (V.), Louisa Street	..	3	..	5	..	..
Fishponds College Practising School (Infants)	..	22	2	71	4	..
Greenbank (C.) .. ..	..	..	..	8	..	..
Hannah More (V.) .. ..	..	54	11	8	..	..
Holy Cross R.C. (V.) .. ..	..	3	..	..	..	..
Horfield (V.) .. ..	..	2	..	16	..	..
Hotwells (C), Hope Chapel Hill	.	3	..	2	..	..
Hotwells National (V.) .. ..	..	..	..	2	..	..
Kingsdown (C.) .. ..	..	5	3	..	23	..
Knowle (C.) .. ..	..	1	27	12	76	..
Luckwell (C) .. ..	.	2	28	23	54	13
Marlborough Hill (V.) .. ..	..	..	..	1	1	..
Merrywood (C.) .. ..	..	5	..	21	42	..
Mina Road (C.) .. ..	.	1	..	..	..	..
Moorfields (C.) .. ..	..	1	1	..	1	..
North Street Wesleyan (V.) ..	..	15	4	22	31	..
Orchard Place, Stillhouse Lane	..	1	..	..	2	..
Park Place, R.C. (V.) .. ..	..	..	..	..	1	..
Parson Street (C) .. ..	..	5	..	12	12	2
Redcross Street (C.) .. ..	..	1	1	2	1	..
Redcliff Endowed, Boys, (V.) ..	..	..	1	..	2	..
Redfield (C) .. ..	.	21	..	13	22	..
Rose Green (C) .. ..	..	3	1	2	2	..
Russell Town (C) .. ..	..	18	..	2	30	..
St. Anne's (C) .. ..	..	..	1	11	18	..
Carried Forward .. ..	..	318	134	439	386	16

Schools.				Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward	..			318	134	439	386	16
St. Augustine's (V.), Wells Street	.			7	4	9	..	..
St. Barnabas (V.)	..	..		31	1	3	4	..
St. Gabriel's (V.), Easton	..	..		1	..	..	1	1
St. George National (V.)	..	..		2	..	1	4	..
St. George's (V.), Brandon Hill	..			2	..	17	2	..
St. James' (V.), St. James' Barton	..			16	2	1	4	..
St. John's (V.) Durdham Down	..			14	..	..	..	..
St. Jude's (V.)	..	..	..	1	9	2	1	..
St. Luke's (V.), Barton Hill	..			8	..	1	..	..
St. Luke's (V.), Weare Street	.			1	7	10	1	..
St. Luke's Institute (V.), William Street	..	..	..	..	10	7	7	..
St. Mark's (V.), Easton	..	..		18	..	3	2	..
St. Mary Redcliffe, Girls' and Infants' (V.)	..	..	..	..	..	1	14	1
St. Mary-on-Quay, R.C. (V.)	..			..	..	4	..	..
St. Matthias (V.), Broad Weir	..			7	2	1	1	..
St. Michael's (V.), Old Park	..			..	2	1	1	..
St. Nicholas & St. Leonard's (V.)	..			4	..	8	3	1
St. Paul's National (V.), Wilson St.	..			..	..	..	1	..
St. Paul's (V.), Dean Lane	..			1	3	21	2	..
St. Philip's (C.), Freestone Road	..			1	11	14	5	..
St. Philip's Church (V.)	..	..		7	1	.	5	..
St. Saviour's (V.), Woolcott Park	..			1	..	1	1	..
St. Silas (V.), St. Philip's Marsh	..			..	..	5	19	..
St. Simon's (V.), Baptist Mills	..			26	3	2	5	..
Carried forward	..	..		466	189	551	469	19

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward ..	466	189	551	469	19
Sefton Park, (C.) .. ..	54	9	25	2	..
Shirehampton, (V.) .. ..	9	1	61	..	..
South Street, (C.).. ..	6	8	64	49	1
Stapleton, (V.) .. ..	10	..	..	..	..
Stoke Bishop, (V.) .. ..	..	..	..	8	..
Summerhill, (C.) .. ..	1	14	14	1	..
Sussex Street, (C.) .. ..	2	12	5	..	..
Temple Colston, (V.), Temple ..	8	1	2	..	..
Two Mile Hill, (C.) .. ..	1	2	4	1	..
Victoria Park, (C.), St. John's Lane..	3	12	18	22	..
Wells Road (C.) .. ..	88	13	4	4	..
Westbury-on-Trym, (V.) .. ..	..	1	17	31	..
Westbury Park, (C.) .. ..	25	..	25	7	..
Whitehall, (C.) .. ..	20	1	..	11	..
Wick Road, (C.) .. ..	..	..	..	..	1
Windmill Hill, (C.) .. ..	1	11	11	14	1
TOTALS ..	694	274	801	619	22

*Note.*—Twenty-six cases of Ringworm were also reported from various Schools.

GRAND TOTALS.

Measles .. ..	694
Whooping Cough .. ..	274
Chicken Pox .. ..	801
Mumps .. ..	619
Rashes, Throats, etc. .. ..	22
Ringworm .. ..	26
	<hr/> 2436

No returns of any of these diseases have been received from the following schools during the year 1913:—

Fairfield, (Secondary), (C.)  
 St. Bonaventure, (R.C.) (V.)  
 St. George, (Secondary), (C.)  
 Dr. Bell's, Fishponds.  
 Day Industrial, Temple Backs

Fishponds College Practising School  
 (Girls).  
 Holy Trinity, (V.), Hotwells,  
 Newfoundland Road, (C.)  
 St. Nicholas, (R.C.), (V.)

**PUBLIC HEALTH (MILK & CREAM)  
REGULATIONS, 1912.**

**Report for the Year ended 31st Dec., 1913.**

**1.—Milk and Cream not sold as preserved Cream—**

		(A) Number of Samples examined for the presence of a Preservative.	(B) Number in which a Preservative was reported to be present.
Milk	.. ..	651	Nil
Skim Milk	.. ..	9	Nil
Condensed Milk	.. ..	5	Nil
Cream	.. ..	12	4

**Nature and amount of Preservative found in Cream—**

					Action taken under Regu- lations in regard to it.
·2	per cent.	Boric Acid	..	..	Cautioned
·29	"	"	..	..	Do.
·12	"	"	..	..	Do.
·23	"	"	..	..	Do.

**2.—Cream sold as Preserved Cream—**

(A).	1—Correct statement made	..	..	3
	2—Statement incorrect	..	..	—
	Total	..	..	3

**Determinations made of milk fat in Cream sold as Preserved Cream :—**

(B.)	1—Above 35 per cent.	..	..	3
	2—Below 35 "	..	..	—
	Total	..	..	3

(C.) One (654), label in shop, but sample unlabelled.

(D.) ,, (654), cautioned.

**3—Thickening substances—Nil.**

EDWARD RUSSELL,

*Public Analyst and Bacteriologist.*

*Mr. Edward Russell, B.Sc., F.I.C., City Analyst, has kindly supplied the following returns for 1913:—*

### “FOOD & DRUGS WORK.”

During the year 1,300 samples were submitted for Analysis; all the samples were received from the Inspector.

The following tables show the nature and number respectively of the samples submitted, with the number reported genuine and the number adulterated:—

Number of samples examined	...	1,300
„ „ genuine	...	1,194
„ „ adulterated	...	106

ARTICLE.	Number Examined	Number Genuine	Number Suspicious	Number Abnormal	Number Adulterated	Per cent. Adulterated
Milk ... ..	651	567	32	4	84	12.9
Milk (Skim) ... ..	9	8	1	0	1	11.1
Cream ... ..	15	11	0	0	4	26.6
Condensed Milk ... ..	5	5	0	0	0	0
Butter ... ..	245	244	7	10	1	.41
Margarine ... ..	29	29	0	0	0	0
Cheese ... ..	18	18	1	0	0	0
Lard ... ..	17	17	0	0	0	0
Lard Substitutes ... ..	3	3	0	0	0	0
Spirits ... ..	61	55	3	0	6	9.83
Sugars and Sweets ... ..	32	30	4	0	2	6.25
Wheaten and other Flours ... ..	41	41	0	0	0	0
Vinegar ... ..	6	4	2	0	2	33.3
Coffee ... ..	25	25	0	0	0	0
Cocoa ... ..	7	7	0	0	0	0
Pepper ... ..	13	13	0	0	0	0
Mustard ... ..	18	15	0	0	3	16.6
Tea ... ..	10	10	0	0	0	0
Gravy Salt ... ..	2	2	0	0	0	0
Meat Powders ... ..	9	9	0	0	0	0
Lemonade Crystals ... ..	10	10	0	0	0	0
Wine ... ..	6	6	0	0	0	0
Mineral Waters ... ..	10	10	0	0	0	0
Spices ... ..	6	6	0	0	0	0
Baking Powder ... ..	4	4	0	0	0	0
Jellies (Gelatine) ... ..	9	7	0	0	2	22.2
Drugs ... ..	39	38	0	0	1	2.56
<b>TOTALS</b> ... ..	<b>1300</b>	<b>1194</b>	<b>50</b>	<b>14</b>	<b>106</b>	<b>8.15</b>

Of the 1,300 samples examined, 674 were sealed—having been divided in accordance with the regulations of the Food and Drugs Act—and 626 were unsealed.

The examination of all the samples is equally directed to the detection of abnormalities of composition, and adulteration, and therefore no distinction between samples—sealed and unsealed—is convenient or of value.

The working of these Acts in the City of Bristol is entrusted to an Inspector acting under the Watch Committee and is not administered by the Health Committee.

### Housing of Working Classes.

The following Table shows the action taken over a period of 20 years :—

Date.	No. of Houses dealt with.	No. of Houses closed.	No. of Houses made habitable.
1890	35	30	5
1891	72	27	45
1892	26	18	8
1893	2	0	2
1894	34	18	16
1895	31	18	13
1896	28	10	18
1897	4	3	1
1898	9	7	2
1899	33	31	2
1900	21	6	15
1901	6	1	5
1902	64	61	3
1903	67	58	9
1904	34	16	18
1905	28	11	17
1906	9	9	0
1907	18	15	3
1908	30	12	18
1909	17	9	8
Total ...	568	360	208

### Housing, Town Planning, &c., Act.

Date.	No. of Houses Inspected.	No. of Houses Closed under Order.	No. of Houses Closed Voluntarily.	No. of Houses made Habitable.	No action necessary.
1910	611	18	55	235	209
1911	1351 and	72 and	38	794	332
1912	two rooms 453	two rooms 27	36	315	45

The action taken under the provisions of this Act during 1913 is set forth here :—

Total number inspected	...	541
Found defective—		
40 Closed under order	}	—447
117 Closed voluntarily		
248 Made habitable		
42 in hand		
No action necessary	...	94

Of the 157 houses closed, thirty-seven were subsequently voluntarily demolished.

### Mortuaries.

Quaker's Friars, off Merchant Street, *post mortem* Examination Room and Coroner's Court adjoining.

In addition to the above, there are Mortuaries for Police purposes at Bedminster and Redland Police Stations, and a Mortuary at Avonmouth.

### Municipal Lodging House.

This Lodging House was opened on April 20th, 1905, with 60 beds, and continued with this number until the 17th September, 1905; the average number of lodgers per night during that period was 42. On the 17th September, 1905, the number of beds were increased to 120, and the average nightly occupations from that date to 25th March, 1906, was 74.



## CITY AND COUNTY OF BRISTOL.

## MUNICIPAL LODGING HOUSE.

## City Accountant's Report and Financial Statement.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH  
COMMITTEE.

Gentlemen,

In submitting to you the Financial Statement of the Municipal Lodging House for the year ended 25th March, 1914, I beg to report as follows, viz.:

The total number of nightly occupations from 26th March, 1913, to 25th March, 1914, was 41,416, or an average of 113 Lodgers per night during the year; the total number of beds available being 120.

For the year ended 25th March, 1913, the total number of nightly occupations was 39,873, or an average of 109 lodgers per night during the year. This is an increase of 1,543 nightly occupations, or an increase on the average of 4 lodgers per night.

The result of the increase in the number of lodgers has been a corresponding increase in the receipts over the previous year of £50 5s. 4d.

There has been an increase in the Maintenance Account, compared with the previous year, of £12. This is accounted for in the increased amount paid, for wages, £48; crockery, £5; and sundry items, £4, against which, however, there are reductions in the amounts paid, for painting and repairs, £39, and Fittings, etc., £6.

The amount payable for Interest and Sinking Fund was £474 12s. 1d., from which is deducted the surplus of £231 9s. 11d. on the Maintenance Account, leaving a balance of £243 2s. 2d. chargeable on the General District Rates for the year ended 25th March, 1914, as compared with £275 18s. 8d. for the year ended 25th March, 1913.

For the information of the Committee I append herewith the average amount received per night per occupation, and the average cost, viz. :—

Year		Year
<u>1912-13</u>		<u>1913-14</u>
d.		d.
5·59	Average amount received per nightly occupation.	5·67
4·42	Average cost per nightly occupation (maintenance only).	4·33
6·53	Do. (maintenance and interest on loans)	6·39
7·25	Do. (maintenance, interest on loan and contribution to Sinking Fund)	7·08

I am, Gentlemen,

Your obedient Servant,

J. CROMPTON,

*City Accountant.*

City Accountant's Office,  
51, Prince Street,  
29th April, 1914.

## Municipal Lodging House.

## EXPENDITURE.

Year. 1912-13			Year. 1913-14		
£	s.	d.	£	s.	d.
402	7	6	450	0	8
66	5	1	66	5	1
5	7	6	7	3	6
26	10	1	25	12	9
1	16	2	1	14	3
37	9	6	37	5	9
37	0	3	43	3	5
66	7	4	66	2	6
13	8	6	13	10	0
8	4	4	6	17	8
39	11	0	10	10	
16	4	3	10	8	9
11	9	0	8	4	6
—	—		5	0	7
2	19	5	5	0	2
734	19	11	747	0	5

## LESS INCOME.

£	s.	d.	£	s.	d.
924	6	9	974	3	6
19	7		1	9	11
1	4	11	1	11	5
1	8	9	1	0	6
928	0	0	978	5	4
928	5	0	5	0	
193	5	1	231	9	11
350	1	11	355	10	3
119	1	10	119	1	10
469	3	9	474	12	1
£275	18	8	£243	2	2

Total amount charged to General District  
Rate

1913-1914.

**Baths and Wash-houses.**

The following figures are returned for the Year's work:—

Year ended 25th March, 1914.	No. of Bathers. Swimming Baths.	Private Baths.	Women Washing Clothes.
"Victoria," Clifton (Baths only)	15,752	3,187	...
"Royal" Kingsdown (Baths only)	38,202	...	...
Broad Weir	27,307	22,252	13,656
Mayor's Paddock, New Cut	34,797	30,011	17,488
Jacob's Wells (Baths only)	47,291	20,723	...
Rennison's (Swimming Bath only)	8,464	...	...
Barton Hill	68,499	32,919	...
Eastville Park (Swimming Bath only)	13,258	...	...
Victoria Park (Swimming Bath only)	7,232	...	...
Greville Park (Swimming Bath only)	7,622	...	...
Total .	268,424	109,092	31,144

1912-13	247,898	105,911	33,267
1913-14	268,424	109,092	31,144
	+ 20,526	+ 3,181	— 2,123

(Up to March 25th, 1914.)

*Particulars supplied by Mr. J. KANE.*

## GENERAL AND VITAL STATISTICS.

## Population.

	Area in Acres.	Population (Estimated)	Rateable Value.
City of Bristol, 1897	4,661	232,242	£1,153,311
Additions of 1897	6,756	85,800	£246,815
Additions of 1904	5,347	13,443	£69,560
City of Bristol, 1913	17,460	361,362	£1,856,612

This table shows that the City covers not quite four times the acreage which it covered in 1897, and is more populous by 129,120 persons. The City Medical Officer of Health has inherited the duties and responsibilities of the Medical Officers of Health of this added City; considerable economy has thus been effected in the medical administration, as the salaries of the various medical officers have lapsed.

There is no salaried Assistant Medical Officer to help in either City or Port work, but the occasional Medical assistance, required in emergency, is paid for by fees for work done. The various extensions have resulted in the displacement of five part-time Medical Officers of Health, whose districts have been absorbed.

The districts included three Local Board Districts, each in charge of a part-time Medical Officer of Health, and parts of two Rural areas.

The additional work thus devolving on the Medical Officer of Health, includes:—

**Additions to City Work.**

CITY.—In 1897 the area of the City was increased by 6,756 acres, and the population by 85,800 persons.

In 1904 the area was further increased by an addition of 5,347 acres, and the population by 13,443.

In addition, the National Insurance Act of 1911 doubles the existing responsibility upon the shoulders of the Medical Officer of Health.

### **Additions to Port Work.**

PORT.—In 1897 responsibility for the Gloucester Port work, under the Cholera, Plague, and Yellow Fever Regulations, was imposed by special order upon the Bristol Port Medical Officer of Health.

In 1907 the Public Health (Regulations as to Food) Act imposed all responsibility for the inspection of Imported Food for the whole Port of Bristol upon the Port Medical Officer of Health. This had hitherto been carried out only in Ports under a whole-time Port Medical Officer of Health.

### **Births.**

The births registered in Bristol in 1913 were 8,261, of which 339 were returned as illegitimate, a percentage of 4·1.

The birth rate for the year was 22·4, an increase on the rate of last year, which was 21·3; the rate has since 1882 shown an almost continuous decrease. (Table B.) The rate for the 96 great towns in 1913 is 25·1.

The excess of births over deaths during the year 1913 (*natural increase of population*) is 3,498.

### **Marriages.**

2,953 marriages took place within the Borough of Bristol during 1913, compared with 2,933 in the year 1912 and 2,763 in the year 1911. The annual marriage rate per 1,000 is thus 8·1 compared with 8·1 in 1912 and 6·9 in 1911.

### **Deaths.**

4,793 deaths were registered in the district during the 53 weeks ending the 3rd January, 1914, of which 84 or 1·7 per cent. were returned as deaths of illegitimate children. The recorded general death rate for the year, uncorrected for age and sex distribution is 13·01 per

1,000 living, compared with a rate of 13·61 for the year 1912. The death rate recorded for the 96 great towns in 1913 is 14·3.

### Infant Mortality.

Of the 4,793 deaths, 806 were of infants under one year. The proportion of these deaths to every 1,000 births (infant mortality) gives the satisfactorily low rate of 97·5, compared with a rate of 102·7 for the year 1912, 142·8 for the year 1911, 90·3 for the year 1910, 101·0 for the year 1909, 125·8 for the year 1908, 100·9 for the year 1907, 127·6 for the year 1906, 122·4 for the year 1905, and 133·7 for 1904. The rate recorded in the 96 great towns in 1913 is 117.

The Infant Mortality rate varied thus :—

St. Philip	..	...	...	124·3
Bristol Central	...	...	...	115·5
Bedminster	...	...	...	101·9
Clifton...	...	...	...	94·1
St. George	...	...	...	87·9
Stapleton	...	...	...	70·8
Ashley ...	...	...	...	69·3
Knowle	...	...	...	65·3
Westbury-on-Trym	...	...	...	57·1

In Table B will be seen the annual infant mortality rates in Bristol for the past 25 years.

The highest rates were recorded in St. Philip, Bristol Central (Castle Precincts, St. Mary Redcliff, St. Paul, St. James, St. Augustine), Bedminster and Clifton.

The Health Committee has appointed two Health Visitors, and the Notification of Births Act was adopted on 12th December, 1912. Both Health Visitors are fully trained and certificated nurses, and hold the Certificate of the Central Midwives' Board.



## Seven Chief Epidemic Diseases. (Zymotics.)

The rate of mortality for the Seven Chief Epidemic Diseases, viz.: Small-pox, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Fever (Typhus, Enteric Fever, and Simple Continued Fever or Pyrexia), and Diarrhœa, was in 1913 0·84 per 1,000 living, compared with a rate of 0·99 in 1912, 2·2 in 1911, 0·6 in 1910, 0·9 in 1909, 1·2 in 1908, 0·8 in 1907, 1·6 in 1906, 1905 and 1904, and 1·1 in 1903.

### Birth Rate, Death Rate, and Analysis of Mortality during the Year 1913.

	Birth Rate	ANNUAL RATE PER 1,000 LIVING.								Annual Death Rate per 1,000 Births	
		Death Rate		Enteric Fever	Small-pox	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Diarrhœa & Enteritis (under two years)	Total under one year
		Crude.	Standardized								
England and Wales	23·9	13·7	13·4	0·04	0·00	0·28	0·06	0·14	0·12	23·41	109
96 Great Towns, including London	25·1	14·3	14·7	0·04	0·00	0·34	0·07	0·17	0·13	29·33	117
145 Smaller Towns	23·9	12·8	13·0	0·05	0·00	0·30	0·05	0·13	0·11	24·73	112
England & Wales less the 241 T'ns.	22·3	13·1	12·1	0·04	0·00	0·20	0·05	0·12	0·11	14·39	96
London ...	24·5	14·2	14·2	0·02	0·00	0·34	0·04	0·17	0·09	27·50	105
Bristol ...	22·4	13·0	12·7	0·01	0·00	0·13	0·01	0·14	0·08	20·09	97

### Mortality at Ages between 5 and 65.

2,065 deaths were returned at these ages.

### Mortality amongst Aged People.

1,603 deaths of persons aged 65 and upwards were registered, whose ages averaged 75 years and 4 months.

## PREVALENCE OF SICKNESS IN 1913.

## Small-pox.

The prevalence and fatality of this disease is here shown for the past twenty-eight years :—

## SMALL-POX.

Year.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000 Living	Case Mortality per cent.
1886	?	?	8	3	?
1887	163	72	13	5	7·9
1888	224	98	26	11	11·6
1889	0	—	0	—	—
1890*	0	—	0	—	—
1891	16	7	1	0·4	6·2
1892	0	—	0	—	—
1893	165	73	20	8	12·1
1894	201	88	16	7	7·9
1895	4	1	0	—	—
1896	42	18	5	2	11·9
1897	10	4	1	0·4	10
1898†	2	0·6	0	—	—
1899	0	—	0	—	—
1900	0	—	0	—	—
1901	1	0·3	0	—	—
1902	4	1	2	0·6	5·0
1903	46	14	3	0·8	6·5
1904†	34	9	1	0·2	2·9
1905	13	3	0	—	—
1906	32	8	0	—	—
1907	6§	1·6	1	0·2	16·6
1908	1	0·2	0	—	—
1909	39††	10	9	2	23·0
1910	4**	1	0	—	—
1911	0	—	0	—	—
1912	62**	17	3	0·8	4·8
1913	0	—	0	—	—

\* Compulsory Notification began. † City Extended.

‡ City again extended in 1904. § Including one Port case.

†† This total of 39 includes 35 cases in the City actually notified (one being an Officer of the Cossham Hospital who lived in the County but formed one of the Cossham group); and there were three abortive cases, and one unrecognised case in the East Bedminster group which were not notified. The unrecognised first case in the Cossham outbreak admitted from the Chipping Sodbury Rural District to Cossham Hospital is not included amongst the City cases.

\*\* Including two Port Cases.

No case of Smallpox was notified during 1913.

### VACCINATION.

The 1912 returns are the last complete ones available. I am indebted to the Clerk of the Bristol Union for the following information :—

	BRISTOL UNION.
<b>VACCINATION.</b>	
Number successfully vaccinated up to 31st January, 1914 ...	2,714
Insusceptible ...	15
Died unvaccinated ...	572
Postponed by Medical Certificate Certificates of Conscientious Ob- jection... ..	61
Removed to Districts, the Vac- cination Officer of which has been duly apprised ...	2,023
Cases left and not traceable ...	195
In abeyance ...	945
	1,229
Births registered in 1912 ...	7,754
*Percentage of successful vaccina- tion to births ...	35

\* A special return of Certificates of successful primary vaccinations at all ages, received in each of the calendar years since 1900, was furnished at the request of the Local Government Board, and showed as follows :—Certificates received in 1900 5,917; in 1901, 5,776; in 1902, 6,898; in 1903, 6,972; in 1904, 7,413; in 1905, 7,253; in 1906, 6,870; in 1907, 6,464; in 1908, 5,092; in 1909, 5,377; in 1910, 4,367; in 1911, 3,443; in 1912, 3,285; and in 1913, 3,940.

## SCARLET FEVER.

	1	2	3	4	5
Year	Cases notified	Attacks per 100,000 Living.	Deaths	Deaths per 100,000 Living	Case Mortality per Cent.
1890	559†	253	40	18	7·1
1891	888	400	37	17	4·1
1892	1,442	644	47	21	3·2
1893	1,245	553	35	16	2·8
1894	485	214	16	7	3·2
1895	562	252	16	7	2·8
1896	1,352	586	59	24	4·3
1897	511	220	18	7	3·5
1898*	382	120	14	4	3·6
1899	697	217	13	4	1·8
1900	1,971	606	39	12	1·9
1901	2,206	670	36	10	1·6
1902	2,724	793	66	19	2·4
1903	2,168	639	49	14	2·2
1904	1,258	366	35	10	2·8
1905	1,085	302	39	10	3·5
1906	1,019	280	27	7	2·6
1907	886	240	26	7	2·6
1908	486	127	10	2	2·0
1909	692	183	12	3	1·7
1910	1,216	317	12	3	0·9
1911	953	266	16	4	1·6
1912	580	161	12	3	2·0
1913	1,738	471	6	1	0·3

\* City Extended.

|| The City was further Extended in 1904.

† Notification commenced on February 12th, 1890, so that the case mortality for this year is probably overstated.

### Scarlet Fever and Scarlatina.

During the year 1913, 1,738 cases of Scarlet Fever were notified, and six deaths occurred, giving a case mortality of 0·3 per cent.

The prevalence of, and fatality from, this disease for the past twenty-four years, that is to say, since notification commenced, is shown here. Columns 2 and 4 should be used in comparing different years, as they are adjusted for the varying populations.

The type of disease has again been mild, and the mortality is the lowest recorded.

The attack rate is the highest recorded since 1903.

The distribution of attacks by age is shown below :—

0-1	1-5	5-15	15-25	25+	Total.
7	260	1223	190	58	1738

The distribution of the disease in each quarter of the year is shown in the following table for each Registration Sub-district of the City:—

### SCARLET FEVER.

REGISTRATION Sub-District.	CASES NOTIFIED.				Year 1913	Attack Rate per 100,000 Living.
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.		
Ashley ... ..	40	19	28	102	189	380
Bedminster ... ..	30	46	37	253	366	577
Bristol Central ... ..	20	7	10	88	125	333
Clifton ... ..	21	13	15	70	119	281
Knowle ... ..	8	1	11	79	99	442
St. George ... ..	12	28	45	280	365	600
St. Philip ... ..	10	9	31	245	295	579
Stapleton ... ..	15	15	18	75	123	441
Westbury-on-Trym ... ..	6	9	2	10	27	199
Public Institutions ... ..	2	—	—	18	20	—
Not belonging to City ..	6	1	—	3	10	—
Total ... ..	170	148	197	1223	1738	471

The attack rate per 100,000 population was lowest in Westbury-on-Trym and Clifton, and highest in St. George, St. Philip, and Bedminster.

Isolation in Scarlet Fever at a public Hospital is not needed for the children of persons in good circumstances, who will, indeed, do as well or better at home, but Hospitals have their use in securing isolation in cases which cannot possibly receive adequate attention at home.

## **SCARLET FEVER, 1913.**

Some schools were implicated in the spread of infection. The school rooms were cleansed and disinfected. The evidence as to much school infection was not conclusive, but a careful watch was kept upon the school notifications.

Contact infection amongst associated children at home was probably chiefly responsible for the spread of infection, coupled with a type of disease leading to "missed" cases, which readily carry and distribute infection. In several cases medical aid was not called in until the children were found to be peeling freely, and these children had in some cases been attending school.

### **Lack of Hospital Accommodation.**

The epidemic of Scarlet Fever which attacked the City in September showed the first sign of abatement at the end of February, 1914.

The hospital accommodation was very severely taxed during this period, and the lack of sufficient isolation accommodation may be assumed to be one cause for the prolongation of the outbreak, which extended over a period of six months. The type of disease, judging by the case mortality for the period, was extraordinarily mild; but it has already been pointed out that there is danger in neglecting mild cases of Scarlet Fever, because of the often serious results of its many complications, and the paucity of deaths carries no excuse for the insufficiency of beds.



Very rigid selection had to be exercised in removal, and at times there have been as many as one hundred applications on the urgent list of cases for removal, and not a vacant bed at the hospitals! At ordinary times selection generally ensures the removal of such cases where home-isolation is quite impossible, but under the circumstances obtaining during this outbreak the more restricted selection for removal resulted in leaving very many cases at home under conditions which ensured the spread of infection. The pressure of Scarlet Fever had the effect of immediately disturbing the arrangements made for accommodating Phthisis patients at Ham Green Hospital, and of limiting the accommodation for Diphtheria; and it was also the means of entirely removing any facilities for nursing Enteric Fever, when it became essential to provide accommodation in order to deal effectively with an outbreak in the district of Pennywell Road. It should also be borne in mind that we have been dependent on the Public Institutions for the nursing of the epidemic Cerebro-Spinal Meningitis cases reported in the City during this period. The nursing of the small percentage of Scarlet Fever cases was made possible only in consequence of the conspicuous absence of Diphtheria, usually prevalent during the autumn and winter; indeed, the City was freer from Diphtheria during this period than has been the case for many years. Serious trouble would have followed had Diphtheria been as prevalent and of such an urgent character as during the corresponding periods of some previous years, for experience has proved that home isolation in Diphtheria is impossible, and room would have had to be made by excluding Scarlet Fever, which would yet further have prolonged the epidemic. It should also be remembered that no case of Small-pox occurred, which would have immediately further lessened the accommodation for Scarlet Fever by fifty beds.

The total cases notified and removed to hospital are as follows :—

During Week Ending	Cases Notified	Cases removed to Hospital	
27th Sept., 1913	34	25	
4th Oct.	32	24	
11th „	41	26	
18th „	52	35	
25th „	79	37	
1st Nov.	92	26	
8th „	70	19	
15th „	116	28	
22nd „	101	35	
29th „	126	29	
6th Dec.	122	32	
13th „	114	46	
20th „	117	39	
27th „	65	11	
3rd Jan., 1914	96	42	
10th „	76	30	
17th „	45	36	
24th „	101	30	
31st „	76	27	
7th Feb.	94	36	
14th „	83	24	
21st „	67	41	
28th „	68	28	
	<hr/>	<hr/>	
	1867	706	
Total Cases Notified	Total Cases Desiring Removal	Total Cases Removed	Not Desired
1867	1422	706	445

The distribution of the disease by age is shown in the following table :—

0-1	1-5	5-15	15-25	25+	Total
5	248	1315	225	74	1867

The distribution of the disease is shown in the following table for each Sub-District in the City : —

Registration Sub-District.	CASES NOTIFIED.						
	Week Ending 27 Sept.	Oct., 1913	Nov., 1913	Dec., 1913	Jan., 1914	Feb., 1914	Total
Ashley .. ..	1	21	45	36	38	39	180
Bedminster .. ..	7	59	73	121	57	92	409
Bristol Central ..	2	15	30	43	23	24	137
Clifton .. ..	1	8	25	37	19	23	113
Knowle .. ..	2	16	35	28	21	13	115
St. George .. ..	7	59	88	133	52	53	392
St. Philip .. ..	12	91	82	72	39	31	327
Stapleton .. ..	2	18	22	35	41	31	149
Westbury-on-Trym	—	4	4	2	3	5	18
Public Institutions	—	4	8	6	4	1	23
Not belonging to City	—	1	1	1	1	—	4
Total ..	34	296	413	514	298	312	1867

Thus it will be seen that of the cases notified, removal was advisable in 76·16 per cent., and accommodation provided only for the removal of 49·64 per cent., less than one half of the total cases recommended for hospital treatment by the medical attendant.

The maximum number of beds available for Scarlet Fever during this period was—Ham Green, 122 ; Novers Hill, 50. Total, 172.

If the Local Government Board's Regulations were observed, viz. : one bed per 1,000 population, we should provide  $363\frac{1}{2}$  beds, whereas at present the proportion of beds per 1,000 population is 0·4.

There are only 4 beds per 10,000 population (at full cubic space, 2,000 cubic feet), and the population to be served is 336,312 persons.

In considering the figures relative to the cases removed it would be well to bear in mind, as already stated, that only exceptionally urgent circumstances qualified the removal of a patient, and that the average length of stay at Ham Green Hospital is by the existing method reduced to 35 days, as compared with 42 days in 1912, and 53 days in 1910, so that with Ham Green "figuratively extended" only 49 per cent. of the cases desiring removal could be accommodated.

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### Enteric Fever (Typhoid Fever).

During the year 1913, 64 cases of Enteric Fever were notified, and five deaths occurred, giving a case mortality of 7·8 per cent.

The prevalence and fatality from this disease for twenty-four years past is here shown:—

#### ENTERIC FEVER.

	1	2	3	4	5
Years.	Cases. Notified	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000 Living.	Case Mortality per Cent.
1890 <sup>*2</sup>	122	55	33	14	27·0
1891	116	52	23	10	19·6
1892	135	60	18	8	13·3
1893	122	54	26	11	21·3
1894	90	39	21	10	23·3
1895	89	39	22	9	24·7
1896	110	47	20	8	18·1
1897	343	147†	47	20	17·4
1898*	113	35	26	8	23
1899	219	68	35	10	16
1900	293	90	44	13	15
1901	281	85	40	12	14
1902	319	93	58	17	18
1903	134	39	21	6	15
1904†	172	50	26	7	15
1905	76	21	13	3	17
1906	120	33	21	5	17
1907	74	20	15	4	20
1908	103	27	10	2	9
1909	66	17	12	3	18
1910	85	22	9	2	10
1911 <sup>*3</sup>	148	41	18	5	12
1912	79	21	7	1	8
1913	64	17	5	1	7

\* Extended City. † Milk Outbreak introduced from the County.

<sup>\*2</sup> Notification commenced February 12, 1890, so that the case mortality for this year is probably overstated.

† City again extended in 1904. <sup>\*3</sup> Localised Outbreak in St. James.

No estimate can be made as to the number of cases occurring before 1890, the high figures of 1897 are due to the introduced mill outbreak of that year. In 1897 the City, containing 232,242 people, was extended, and in 1904 contained 343,204 persons, an increase of 110,962 persons. In 1904 a further extension was made. Allowance in columns two and four is made for the increase of population year by year, and the figures in these columns should be used for comparison. The attack rate fell very considerably in 1903 and 1904 from the high rate of 1902, and the death-rates (column four) for the years 1903 and 1904 were the lowest recorded up to then.

In 1908 the attack rate rose slightly compared with that of 1907, but the number of deaths, the death-rate and the case mortality per cent., are the lowest then recorded.

In 1909 the attack rate was the lowest recorded since Notification began in 1890, but the number of deaths and the death-rate rose slightly compared with 1908. The rise in case mortality to 18 per cent. suggests that the type of infection was more severe than in 1908.

In 1910 the attack rate was higher than in 1909, but was lower than in any year except 1909, 1907 and 1905. The death-rate was, however, the lowest rate recorded, and the case mortality per cent. was the lowest recorded with the exception of the year 1908.

In 1911 the attack rate was the highest recorded since 1904, owing to a localised contact-outbreak in St. James, of which a full account appeared in my Report for that year, the death-rate was the highest recorded since 1906. The case mortality per cent. was the lowest recorded, with the exception of the years 1908 and 1910.

In 1912 the attack rate was the lowest rate recorded since Notification began, except the rate for the year 1909. The death rate and the case mortality rate were the lowest recorded up to the present year.



In 1913 the attack rate was the same as the rate recorded for the year 1909, which was the lowest rate recorded since notification began in 1890. The death-rate and the case mortality rate are, however, the lowest recorded in any year.

The distribution of the disease in each quarter of the year is shown in the following table for each Registration Sub-district of the City. The Sub-districts most affected are seen to be St. George and Bedminster.

REGISTRATION. Sub-District.	CASES NOTIFIED.				Year 1913	Attack Rate per 100,000 Living.
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.		
Ashley ... ..	—	—	3	—	3	6
Bedminster .. ..	—	—	1	3	4	6
Bristol Central ... ..	3	3	1	9	16	42
Clifton ... ..	—	—	1	1	2	4
Knowle ... ..	1	—	1	1	3	13
St. George ... ..	1	1	6	7	15	24
St. Philip ... ..	—	1	4	2	7	13
Stapleton ... ..	—	2	1	—	3	10
Westbury-on-Trym ... ..	—	1	—	1	2	14
Municipal Institutions ... ..	—	1	1	2	4	—
Not belonging to City ... ..	—	—	2	3	5	—
Total ... ..	5	9	21	29	64	17

Enteric Fever is admitted for treatment into the Public Institutions, and sixty cases (three from outside the City) were nursed in the Royal Infirmary, General Hospital, Hain Green Hospital, Children's Hospital, Cossham Hospital, and Stapleton Workhouse, through the year. With the exception of twelve cases nursed at Clift House in 1897, no provision had been made for this disease in the City Hospitals before July, 1899, and cases, if not admitted to the general Hospitals, had to remain at home.



### Report on Typhoid Carrier.

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The Typhoid Carrier (Urinary Case, L.C.), who was admitted to Ham Green Hospital on January 19th, 1909, for observation and experiment with a view to cure, was finally discharged on November 15th, 1913.

Since the injections of the sensitized vaccines in October-February, 1911-12, the patient had not discharged any of typhoid bacilli up to the time of discharge.

She may provisionally be considered to be "cured," but has promised to keep in touch with the Hospital. For further report on case see *The Lancet*, November 8th, 1913.

## DIPHTHERIA (including Membranous Croup).

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During the 53 weeks of 1913, 762 cases and 33 deaths were notified as Diphtheria, giving a death rate of 0·08.

The Diphtheria rate (including Membranous Croup) for the 95 great towns in 1913 was 0·13.

The 33 deaths returned as due to Diphtheria gave a case mortality of 4·3 per cent. The case mortality observed in 1894 was 39 per cent.; much of this difference is apparent only as large numbers of very mild cases, which in 1894 would have escaped observation, are sought for now by systematic bacteriological examination; this causes the figures as to case-mortality to be somewhat misleading. But the case-mortality of the years 1901-2-3 may more properly be compared with that for this year, and the diminution indicates, as I believe, the joint effect of decline in the virulence of the infection since these years of chief prevalence, and immunisation of the susceptible population through the wide diffusion of attenuated forms of the bacillus.

The 33 deaths from Diphtheria and Membranous Croup correspond to a death-rate from these causes of 8 per 100,000 living, which is the lowest rate recorded since 1891, and compares with a rate of 13 in 1912, 11 in 1911, 6 in 1910, 14 in 1909, 18 in 1908 and 1907, 22 in 1906, 16 in 1905, 30 in 1904, 35 in 1903, and of 54 in 1902.

The rate of attack, 206, is the highest recorded since 1908.

TABLE I.

**Diphtheria (including Membranous Croup for 24 years.)**

	1	2	3	4	5
Year	Cases Notified	Attacks per 100,000 Living	Deaths	Deaths per 100,000 Living	Case Mortality per cent
1890	56	25	16	7	28·5
1891	70	31	16	7	22·8
1892	106	47	38	16	35·8
1893	141	59	53	23	37·5
1894	128	56	50	22	39·0
1895	165	69	34	14	20·6
1896	258	111	38	16	14·7
1897	205	88	36	15	24·7
1898*	217	68	44	13	20·2
1899	215	67	33	10	15·3
1900	512	157	103	31	21·1
1901	908	275	124	37	13·6
1902	1,109	325	189	54	17·0
1903	1,134	331	119	35	10·4
1904†	1,051	305	105	30	9·9
1905	1,021	284	59	16	5·7
1906	839	231	82	22	9·7
1907	926	251	68	18	7·3
1908	924	243	69	18	7·4
1909	712	188	55	14	7·7
1910	556	145	38	9	6·8
1911	584	163	42	11	7·1
1912	643	178	48	13	7·4
1913	762	206	33	8	4·3

|| Notification commenced February 12th, 1890.

\* Enlarged City.

† City again Extended in 1904.

TABLE II.

DIPHTHERIA.

TABLE SHOWING TOTAL CASES NOTIFIED, AND DEATHS DURING THE YEAR 1913.

CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.										
At all Ages.	At Ages—Years.						Ashley	Bedminster	Bristol Central	Clifton	Knowle	St. George	St. Philip	Stapleton	Westbury-on-Trym	Public Institution	Not belonging to Borough
	Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65											
CASES, 1913 <div><div>1st QUARTER 225</div><div>2nd QUARTER 151</div><div>3rd QUARTER 151</div><div>4th QUARTER 235</div></div>	5	72	116	18	13	—	1	36	38	16	15	44	19	21	2	8	2
	—	34	92	13	10	2	—	9	27	13	4	23	21	18	6	8	5
	3	38	92	9	7	2	—	8	36	10	17	13	19	22	5	7	2
	5	51	143	19	15	2	—	22	58	12	21	39	26	9	20	5	2
	13	195	443	59	45	6	1	63	157	73	66	57	119	85	70	33	28
Total 762																	
DEATHS, 1913 <div><div>1st QUARTER 7</div><div>2nd QUARTER 5</div><div>3rd QUARTER 10</div><div>4th QUARTER 11</div></div>	—	1	3	3	—	—	—	—	—	1	1	2	1	1	—	—	—
	—	1	1	2	—	1	—	—	—	1	—	1	1	—	—	—	2
	2	3	3	2	—	—	—	2	1	—	—	—	4	2	—	—	1
	—	1	3	7	—	—	—	—	2	—	—	3	2	2	1	—	—
	2	6	10	14	—	1	—	2	4	—	2	2	6	8	5	1	—
Total 33																	

TABLE III.

**Diphtheria—Showing incidence of Cases and Deaths  
on the Sub-Districts of Bristol, 1913.**

Incidence Rate per 100,000 Population.	Cases.	REGISTRATION SUB-DISTRICT. POPULATION. (Estimated 1913.)	Deaths.	Death Rate per 100,000 Population.
126	63	Ashley .. .. 48,718	2	4
247	157	Bedminster .. .. 62,186	4	6
194	73	Bristol Central .. .. 36,747	—	—
156	66	Clifton .. .. 41,503	2	4
254	57	Knowle .. .. 21,952	2	8
195	119	S. George .. .. 59,640	6	9
166	85	S. Philip .. .. 49,973	8	15
251	70	Stapleton .. .. 27,336	5	17
243	33	Westbury-on-Trym .. .. 13,307	1	7
—	28	Arising in Municipal Institutions	—	—
—	11	Not belonging to Boro'	3	—
206	762	<b>City</b> .. .. 361,362	33	8

TABLE IV.

**Diphtheria—Notifications in each Quarter in the  
Sub-Districts of Bristol, 1913.**

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.
Ashley .. ..	24	9	8	22	63
Bedminster .. ..	36	27	36	58	157
Bristol Central ..	38	13	10	12	73
Clifton .. ..	16	17	12	21	66
Knowle .. ..	15	4	17	21	57
St. George .. ..	44	23	13	39	119
St. Philip .. ..	19	21	19	26	85
Stapleton .. ..	21	18	22	9	70
Westbury-on-Trym ..	2	6	5	20	33
Arising in Municipal Institutions ..	8	8	7	5	28
Not belonging to Boro'	2	5	2	2	11
CITY .. ..	225	151	151	235	762

TABLE V.

**DIPHTHERIA.**

Cases Removed to Hospital during the Year 1913.

	Ashley.	Bed- minster.	Bristol Central.	Clifton.	Knowle.	St. George.	St. Philip.	Staple- ton.	West- bury-on Trym.	Public Insti- tutions.	Outside City.
1st Quarter	11	25	27	14	11	24	14	19	1	8	3
2nd "	3	12	14	15	3	19	18	16	5	10	6
3rd "	6	23	8	7	13	8	14	15	4	10	5
4th "	7	38	11	19	13	17	20	8	13	4	2
Totals	27	98	60	55	40	68	66	58	23	32	16

Total Number of Cases Removed      ...      543



TABLE VI.

**Laboratory Examinations in Diphtheria and  
Enteric Fever.**

	Diphtheria.	Enteric Fever.	Total.
1895	87	—	87
1896	206	—	206
1897*	379	254	633
1898	390	127	517
1899	485	290	775
1900	915	452	1,367
1901	2,527	425	2,952
1902	3,771	420	4,191
1903	5,545	240	5,785
1904* <sup>2</sup>	6,858	308	7,166
1905	6,469	161	6,630
1906	4,738	219	4,957
1907	6,549	166	6,715
1908	5,003	172	5,175
1909	4,118	138	4,256
1910	3,113	172	3,285
1911	3,081	373	3,454
1912	3,968	184	4,152
1913	5,648	142	5,790

\* City enlarged in November, 1897.

\*<sup>2</sup> City enlarged in October, 1904.

## DIPHTHERIA.

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### Deaf and Dumb Institution, 1913.

In January, 1913, there were 47 children resident at this Institution. On the 22nd and 27th January, two children sickened with Diphtheria and were removed to the City Isolation Hospital. The Medical Officer to the Institution adopted the method of taking swabs from the throats, noses and ears of the remaining 45 children.

The result of the bacteriological examinations was as follows :—

18 children gave positive results.

23     „     „     suspicious     „

2     „     „     negative     „

The 18 children giving positive results were removed to Hospital, and the remaining children were kept at the Institution for 7 days' observation and treatment, and in the absence of clinical evidence at the end of this period, were sent to their homes. The School was then finally disinfected and closed on the 9th March.

After consultation with the Chairman and the School Medical Officer, the School was re-opened on the 2nd April, and the re-admission of the children carefully regulated.

### **Laboratory Examinations.**

In November, 1902, this work, which had for eight years been voluntarily undertaken by the Medical Officer of Health, was transferred to University College, Bristol, and in 1906 was transferred to the City Analyst.

Of the 5,790 bacteriological examinations made during 1913, 3,130 were of suspected cases of Diphtheria, of which a positive result was obtained in 632; 830 showed suspicious organisms, and 1,668 gave a negative result; 2,518 control examinations to determine recovery, of which a positive result was obtained in 672; 831 showed suspicious organisms, and 1,015 gave a negative result; and 142 were of suspected cases of Enteric Fever, of which a positive result was obtained in 29, and one gave a doubtful reaction.

### **Diphtheria Antitoxin.**

The Health Committee during the year have supplied 590,000 units of Diphtheria antitoxin free to Medical Practitioners upon application, for 96 patients whose parents were certified as unable to afford to pay for this.

The following revised Memorandum has been issued:—

### Antitoxin in Diphtheria.

The importance of **early dosage** cannot be over-estimated, a delay of a few hours in administration of Antitoxin may make a serious difference to the patient; if every case could be treated **on the first day of illness and kept at rest for three weeks**, very favourable results would follow.

If the clinical symptoms warrant the clear suspicion of Diphtheria, do not await the result of a Culture, but administer a full dose of Antitoxin at once.

If the diagnosis is clinically certain, notify at once (by telephone if necessary), specifying urgency if removal is required. A Culture, which should always be taken, can be dealt with later. Written Notification must also be forwarded.

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#### DOSAGE.

The following Rules should be followed, having regard to the type of Diphtheria at present in the City.

The minimum Therapeutic dose should be taken as 4,000 units irrespective of age; diphtheria is more severe in young children, so that large doses are necessary, and may be administered without ill effect.

In all cases showing definite evidence of Diphtheria, the doses should be:—

On first day of illness ...	...	4,000 units
„ second „ ..	...	6,000 „
„ third or later ...	...	8,000 „

In the more severe cases the maximum dose **should be repeated** every 12 hours until the membrane begins to separate.

In less severe cases the interval may be prolonged to 24 hours.

In mild cases seen on the first or second day, one dose may be sufficient.

The administration of a **sufficient dose** of Serum at an early date greatly reduces the risk of severe paralysis during convalescence.

D. S. DAVIES, M.D.,

Medical Officer of Health.

B. A. I. PETERS, M.D.,

Resident Medical Officer,

Ham Green Hospital.

PUBLIC HEALTH OFFICES,

40 PRINCE STREET, BRISTOL.

March, 1911.

**Cholera—Choleraic Diarrhœa—Plague.**

No suspicious cases were introduced.

**Diarrhœa—Infantile Diarrhœa.**

The number of deaths returned as due to Diarrhœal diseases during the year was 166, compared with 66, 407, 76, 116, 154, 133, 213, 169, 206 and 107 fatal cases recorded in the previous ten years. These deaths give a Diarrhœa death-rate of 0·18 per 1,000 living compared with 1·13 in 1911 and 0·19 in 1910.

The remarkable increase in deaths from Diarrhœa in 1911 was a result of the abnormal heat of the summer and autumn in that year.

**CITY OF BRISTOL.**

**Table showing Deaths from Diarrhœa during the Third Quarters of the Years 1908-1913.**

Registration Sub-District.	1908	1909	1910	1911	1912	1913
Ashley ...	5	2	1	23	—	4
Bedminster ...	25	17	11	55	4	20
Bristol Central	13	9	2	30	3	13
Clifton ...	1	2	5	22	3	5
Knowle ..	4	1	—	15	2	3
St. George ...	32	15	10	75	4	21
St. Philip ...	29	27	5	84	6	27
Stapleton ...	6	2	2	24	—	—
Westbury-on-Trym	—	1	—	9	—	2

## CITY OF BRISTOL.

Table showing Diarrhoeal Mortality by weeks during the 3rd Quarters of the Years 1908-1913.

WEEKS OF YEAR.

Mean Temperature, 3rd Quarter.	YEAR.	July.				August.					September.				3rd Quarter.	Rate per 1000 Popula- tion.
		27th	28th	29th	30th	31st	32nd	33rd	34th	35th	36th	37th	38th	39th		
60.6	1908	2	1	—	—	1	5	12	24	20	25	14	6	7	117	0.80
59.6	1909	1	2	1	3	1	5	7	7	12	16	9	3	9	76	0.80
59.0	1910	1	—	—	2	—	1	3	2	4	6	6	5	6	36	0.37
69.4	1911	—	2	—	5	15	20	51	63	60	49	36	26	13	340	3.80
58.2	1912	1	3	2	1	3	4	1	2	2	2	2	4	—	27	0.30
61.2	1913	—	1	1	1	8	4	12	15	9	15	15	8	10	99	1.09

### **Erysipelas.**

During the year 1913, 227 cases of Erysipelas were notified, and five deaths were returned, compared with 253 cases and 11 deaths in 1912.

### **Puerperal Fever.**

Twenty-three cases of Puerperal Fever were notified, compared with 33 last year. Eight cases proved fatal, compared with 23 in 1900, 17 in 1901, 17 in 1902, 14 in 1903, 16 in 1904, 6 in 1905, 14 in 1906, 11 in 1907, 7 in 1908, 17 in 1909, 14 in 1910, 10 in 1911 and 15 in 1912.

### **Typhus Fever.**

No case of Typhus fever was notified in the City during the year. This disease disappeared when Registration of Common Lodging Houses and control of gross insanitary conditions were taken in hand in the sixties and seventies of last century. The demonstration that this disease may be inoculated by the body-louse is suggestive in this connection.

### **Measles.**

The deaths from Measles in the City in 1913 numbered 49, compared with 153 in 1912, 164 in 1911, 32 in 1910, 90 in 1909, 96 in 1908, 36 in 1907, 140 in 1906, 180 in 1905, 94 in 1904, 11 in 1903, 411 in 1902, 7 in 1901, with 200 in 1900, and 38 in 1899. These fluctuations are characteristic of Measles prevalence in large centres of population.

Of the 49 deaths, 45 occurred in children under 5, and four between the ages of 5 and 15.

In the first quarter of the years 20 deaths occurred, 8 in the second, 2 in the third, and 19 in the fourth quarter.



The relative fatality for a period of ten years in the City of Bristol from various diseases is here shown, and Measles is found to occupy a most prominent place amongst the causes of mortality,

			1904-1913 Deaths
Diarrhœa	...	...	1707
Measles	...	...	1034
Whooping Cough	...	...	884
Diphtheria	...	...	600
Scarlet Fever	...	...	196
Enteric Fever	...	...	136
Small Pox	...	...	13
Typhus Fever	...	...	0

### Whooping Cough.

The deaths from Whooping Cough in the City numbered 53, compared with 69 in 1912, 142 in 1911, 66 in 1910, 56 in 1909, 128 in 1908, 35 in 1907, 102 in 1906, 123 in 1905, 110 in 1904, 65 1903, 105 in 1902, 189 in 1901, and 54 in 1900.

Twenty-two of the deaths occurred in children under one, 29 at the ages of one to five, and two at ages five to fifteen.

In the first quarter of the year 26 deaths occurred, 16 in the second, 7 in the third, and 4 in the last quarter of the year.

The mortality of this disease is largely due, as in the case of Measles, to the want of care exercised during the course of the illness, in avoiding exposure to inclement weather. It bears a similar relation to school attendance as in the case of Measles, and is very fatal at ages under five.

### Influenza.

This disease was credited with 57 deaths during 1913, compared with 49 in 1912, 27 in 1911, 43 in 1910, 27 in 1909, 73 in 1908, 55 in 1907, 47 in 1906, 54 in 1905, 27 in 1904, 33 in 1903, 56 in 1902, 65 in 1901, and 53 in 1900.

Twenty-four deaths occurred in the first, 23 in the second, 3 in the third, and 7 in the fourth quarter of the year.

### **Cerebro-Spinal Fever and Anterior Polio-Myelitis.**

These diseases are now compulsorily notifiable under an Order of the Local Government Board, dated 15th August, 1912. Notification had previously been adopted by the Bristol City Council; first, for six months only, in October, 1911; and, secondly, in March, 1912, as a permanent measure. The Order of 1912 supersedes the local option.

During the year fourteen deaths were returned as due to Cerebro-Spinal Fever: 1 in Ashley, 3 in Bedminster, 2 in Bristol Central, 1 in Clifton, 1 in St. George, 3 in St. Philip, and 3 in Stapleton.

Sixteen notifications of Cerebro-Spinal Fever, and 7 of Anterior Polio-Myelitis were received during the year.

It is important to keep a careful watch over the distribution of these diseases which have on occasion assumed epidemic proportions in other districts.

The cases occurring during the year were sporadic, and, with the exception of a group of cases at the end of the year, extending into 1914, no suspicious circumstances were noted. This group was duly reported to the Local Government Board, who tendered advice and assistance, and fortunately no development occurred.

### **VENEREAL DISEASES.**

Measures for the control and supervision of these diseases by co-operation between the Public Health Department and the Special Departments of the Local Hospitals has been for some time under consideration. Possibly a clinic or clinics will be established at one or more of the Hospitals, the work being centralised at the Health Offices.

## TUBERCULOSIS.

### Phthisis (Pulmonary Consumption).

The fatality of Pulmonary Phthisis and of other Tubercular diseases, in comparison with that from the seven principal Zymotic diseases is shown here for fifteen years :—

Year.	Phthisis.	Other Tubercular Diseases.	Seven Principal Zymotics.
1899	430	180	582
1900	415	145	606
1901	401	139	530
1902	415	162	942
1903	366	154	375
1904	413	144	578
1905	407	152	583
1906	404	137	585
1907	384	114	314
1908	397	140	467
1909	391	133	350
1910	354	129	233
1911	410	124	789
1912	402	102	358
1913	399	97	312

Phthisis is thus shown to be a serious cause of mortality, leading in some years to as many deaths as the seven principal Zymotic (or chief epidemic) diseases; but the rates in the next table show that the death-rate from this disease has steadily declined since 1840.

## City of Bristol.—PHTHISIS.

Year.	Population.	Total Deaths.	Rate per 100,000 Population
Combined Districts :—  Bedminster, Bristol, Clifton.	1838	590	422
	1839	643	459
	1840	665	475
	1841	597	358
	1842	550	330
	1843	634	381
	1844	553	332
	1845	560	336
	1846	582	349
	1847	510	306
	1848	560	336
	1849	536	322
	1850	488	303
	1851	478	262
	1852	506	278
	1853	587	322
	1854	479	263
	1855	498	273
	1856	490	269
	1857	527	289
	1858	523	287
	1859	550	302
	1860	481	238
	1861	524	259
	1862	488	241
	1863	477	236
	1864	523	258
	1865	512	253
	1866	564	279
	1867	535	264
	1868	498	246
	1869	527	260
	1870	583	238
	1871	579	236
	1872	567	231
	1873	535	218
	1874	524	214
	1875	528	215
	1876	401	205
	1877	410	207
	1878	435	217
	1879	404	199
	1880	367	179
	1881	341	164
	1882	405	194
	1883	426	203
	1884	410	194
	1885	413	194
	1886	477	185
	1887	332	153
	1888	333	153

## PHTHISIS.—continued.

Year.	Population.	Total Deaths.	Rate per 100,000 Population.
1889	218,848	326	148
1890	220,442	413	187
1891	222,049	382	172
1892	223,592	372	166
1893	225,028	363	161
1894	226,578	332	146
1895	228,139	317	138
1896	230,626	320	138
1897	232,242	302	130
1898	316,900	393	124
1899	320,911	430	134
1900	324,973	415	127
1901	329,086	401	121
1902	334,632	415	124
1903	338,895	366	108
1904	343,204	413	120
1905	358,505	407	113
1906	363,223	404	111
1907	367,979	384	104
1908	372,785	397	106
1909	377,642	391	103
1910	382,550	354	92
1911	357,509	410	114
1912	359,400	402	111
1913	361,362	399	108



# PHTHISIS

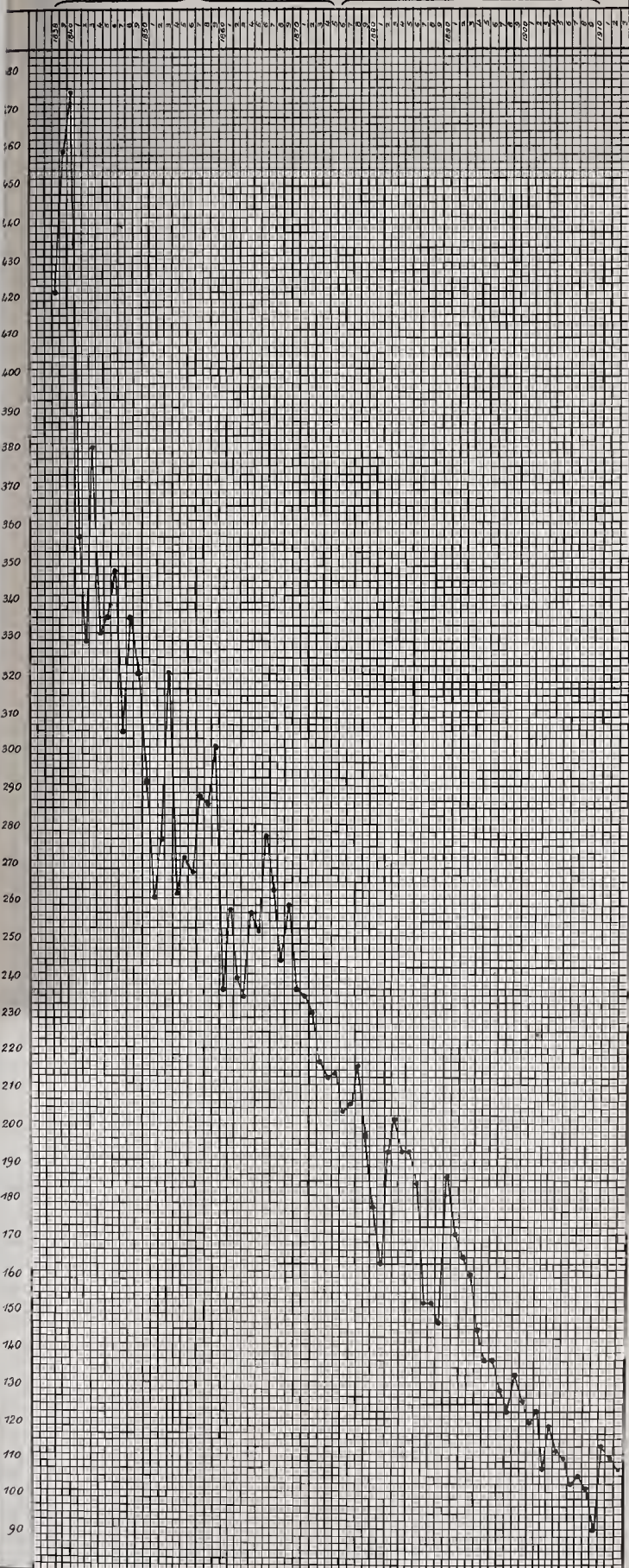
CITY OF BRISTOL

DEATH RATES PER 100,000 POPULATION.

COMBINED DISTRICTS:

BEDMINSTER.  
BRISTOL.  
CLIFTON.

CITY OF BRISTOL.









## TUBERCULOSIS

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### **Phthisis (Pulmonary Consumption).**

The summary of "Municipal Action taken for the Control of Tuberculosis" which follows, shows that since 1891 Bristol has not been negligent of recurrent opportunities for mitigating the hardships caused by Tuberculosis. This work, which is pre-eminently the work of a Health Committee, has now received the sanction of the National Insurance Act, under which greater facilities are offered to Local Authorities for continuing the good work of relief which many had already begun. The Report of the Astor Committee accepted the measures generally recognised as advisable, centring round Notification, the Tuberculosis Dispensary, the Sanatorium for early cases, and the Hospital.

There can be little doubt that the detection of early cases and the application of suitable treatment, together with other precautions, may prolong many lives and limit some opportunities of infection: thus advantaging the present generation. There does not seem, however, to be sufficient evidence to support the belief that the result of all possible measures will approach the extinction of Phthisis; if, indeed, such measures will affect its endemic constitution favourably at all. This is too wide a question to be discussed here; but it always seems to be essentially sane to avoid the bitterness of disappointment by recognising the limitations set by circumstance and natural selection upon our endeavours.

## Municipal Action in Bristol for the Control of Tuberculosis.

### A. PAMPHLET ADVICE.

1891. Instructions, based on New York Regulations first issued.

1892-93-94. Reprinted.

1899. Re-issued.

1904. Revised pamphlet issued. 80,000 copies distributed.

### B. SPUTUM FLASKS.

1904. Supplied by S. John's Ambulance Brigade.

1906. Supplied by Health Committee.

No. supplied during 1913—91.

No. of bottles of Disinfectant supplied during  
1913—1,098.

Total number of Flasks distributed to end of  
1913—431.

Total number of Bottles of Disinfectant  
supplied to end of 1913—5,808.

### C. REGULATIONS AGAINST SPITTING.

1903. Bye-Law adopted by City Council against spitting.

“A person shall not spit on the floor, side or wall  
“of any Public Carriage, or of any Public Hall,  
“Public Waiting-room, or Place of Public Enter-  
“tainment, whether admission thereto is obtained  
“upon payment or not. Any person offending  
“against this Bye-Law shall be liable to a fine not  
“exceeding £1.”

### D. VOLUNTARY NOTIFICATION.

1905. Voluntary Notification of Phthisis adopted by City Council.

Compulsory Notification became Law.	{	1909. Poor Law. 1911. Hospitals. 1912. General—superseding Voluntary Notification. 1913. General Notification of <i>all forms</i> of Tuberculosis.
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TABLE SHOWING NOTIFICATION RETURNS.

Year	Voluntary	Poor Law (Compulsory)	Hospital (Compulsory)	Total
1905	330			330
1906	703			703
1907	542			542
1908	516			516
1909	395	173		568
1910	361	174		535
1911	327	196	456	979
1912	General Order 579	177	667	1423
1913	1911 Regulations 58 1912 Regulations 1371	15	54	1498

Enquiries are made by the District Inspectors into all cases unless specially exempted, and disinfection of premises or articles is secured wherever possible with consent.

#### E. DISINFECTION CARRIED OUT IN HOUSES IN PHTHISIS CASES.

1901. Offered after fatal cases.

1905. First undertaken.

No. of rooms disinfected { After fatal cases, 275.  
during 1913 { After Notified cases, 327.

No. of articles of bedding { After fatal cases, 231.  
disinfected during 1913 { After Notified cases, 212.

Total rooms disinfected { After fatal cases, 2,107.  
to end of 1913. { After Notified cases, 2,107.

Total articles of bedding { After fatal cases, 1441.  
disinfected to end of 1913 { After Notified cases, 1168.

# F. NOTIFICATION OF TUBERCULOUS CHILDREN ATTENDING SCHOOL.

Number attending Schools, 1913—59,772.

Total notified from 1905 to end of 1913—580 (278 males and 302 females).

Year.	Male.	Female.	Total.
1905	...	15	15
1906	17	27	44
1907	11	23	34
1908	10	10	20
1909	8	6	14
1910	11	10	21
1911	23	41	64
1912	65	72	137
1913	Pulmonary 72 Non-Pul- monary 61	Pulmonary 70 Non-Pul- monary 28	Pulmonary 142 Non-Pul- monary 89

# G. SANATORIUM PROVISION FOR EARLY CASES.

The Corporation first acquired and maintained 20 beds in Winsley Sanatorium in 1905. In 1912 they acquired a further bed, and in April, 1913, 6 more beds—making 27 in all.

The total number of cases admitted to Winsley Sanatorium up to the end of 1913 was 673.

In 1912 two blocks were set aside for cases of Phthisis at Ham Green.

The total number of cases admitted to Ham Green Sanatorium up to the end of 1913 was 109.

(See "Sanatorium Benefit" scheme later.)

## H. AFTER HISTORY.

Up to the end of 1912 it was found that of 548 patients discharged from the Bristol Maintained beds at Winsley Sanatorium

231 died,  
 160 could not be traced,  
 157 were alive, of whom—  
 124 maintained working capacity  
 33 were not able to work

This gives a total of 344 candidates in eight years, or an annual figure of 43, who were in need of after treatment upon a Farm Colony or similar institution, or who at any rate needed some further continuous supervision.

## I. ADVANCED CASES.

No provision made by City Council (see Sanatorium Scheme).

No Consumption Hospital in Bristol.

It is estimated that 150 Hospital beds could be usefully employed.

The Guardians have limited accommodation for advanced pauper cases, as below :

Southmead—44	...	30 Male
		14 Female
Stapleton —53	...	41 Male
		12 Female
		—
Total	...	97 beds
		—

## J. PATHOLOGICAL DIAGNOSIS.

1904. Sputum first examined for tubercle bacillus free for Medical Practitioners (City cases only).

Number of examinations during 1913	...	1102
Total examined to end of 1913	...	6068
Number of positive results in 1913	...	223
Total positive results to end of 1913	...	1637

## K. CONTROL OF MILK SUPPLIES.

1890.—Inspector of Dairies, Cowsheds and Milkshops first appointed.

Dairy Regulations in force.

1905.—Bristol Corporation Act provides penalties for selling Tuberculous Milk in the City, for neglecting to segregate a Tuberculous Cow, or failing to send notice to M.O.H.; gives power to M.O.H. to take samples within the City, also outside the City if fortified with Justice's Order; and to inspect Cows with Veterinary Surgeon for Tuberculosis of the Udder, also powers for dealing with dairies within or without the City suspected of causing Tuberculosis in the City.

1899.—Milk from all farms specially examined for Tuberculosis; four out of 74 samples gave positive results.

1911.—Re-examination; 52 samples taken, all of which gave negative results.

1912.—Re-examination; 26 samples taken, all of which gave negative results.



1913.—Re-examination: 28 samples taken, all of which gave negative results.

All Milk Contracts for the City Hospitals are framed on lines protective against Tuberculosis.

#### L. PROTECTION OF MEAT SUPPLIES.

*City.*—Two Meat Inspectors deal with 95 Private Slaughter Houses in Bristol (17,460 acres). In all meat contracts for the City Hospitals the meat is to be guaranteed free from Tuberculosis or other disease.

*Port.*—Examination of all cargoes of imported food-stuffs is now in force under the Public Health (Regulations as to Food) Act, 1907, and a specially qualified Inspector has been added to the Port Staff for this purpose. He is also assisted in the Avonmouth District by the District Inspector, who holds the Meat Certificate of the Royal Sanitary Institute, and by the two City Inspectors of Meat, etc., one of whom also holds the Certificate.

#### M. HOUSING CONDITIONS—OVERCROWDING.

The Local Regulations in force provide as follows:—

BYE-LAWS:	Cubic feet
Common Lodging Houses—	
Sleeping Rooms (two children under 10 equal 1 lodger)                      ...              ...	300
Houses let in Lodgings—	
Room used exclusively as sleeping room	300
Room not used exclusively as              „	400
Workshops (Factory and Workshop Act, 1901) and subsequent Orders of Secretary of State, for each person employed              ...	250
Ditto, during overtime or used for sleeping	400
Underground Bakehouses —overtime              ...	500

In 1897 two Inspectors gave special attention to Workshops—one is now transferred to a District. Lodging Houses and Bakehouses are supervised by a special Inspector; Tenement Houses are supervised by a special Inspector—appointed in 1910.

The Housing Town Planning, &c., Act, 1909, requires further and more regular and complete inspection and control over the housing of the poor, and Regulations have already been issued for ensuring the systematic exercise of such control. The following table shows the action taken under this Act up to the end of 1913.

Total number of houses inspected, 2,956.

2956 { Found defective, 2,276.  
No action necessary, 680.

2276 { Closed under Order, 176.  
Closed voluntarily, 275.  
Made habitable, 1783.  
In hand, 42.

#### N. BRISTOL MUNICIPAL TUBERCULOSIS DISPENSARY.

In 1911 an offer was made to the Bristol Civic League of a sum sufficient to start a Tuberculosis Dispensary, and work was commenced in February, 1912, at 4, Redcliffe Parade West, with a staff consisting of a Resident Medical Officer and a Visiting Nurse.

In January, 1913, the Dispensary and Staff were taken over by the Bristol Corporation as part of the Permanent Tuberculosis Scheme.

During the year 1913, 696 new patients attended the Dispensary, compared with 885 in 1912. The Tuberculosis Officer explains this decrease to the fact that

owing to the routine work, the systematic look-out for "contacts" was impossible.

The number of attendances of the various patients was 8,293, compared with 6,568 during 1912.

Proportion of cases of Tuberculosis found among the new patients:—

	1912	1913
Pulmonary Tuberculosis	533	475
Stigmata and other forms of Tuberculosis ...	170	149
Non-Tuberculous ...	182	72
	<hr/>	<hr/>
Total ...	885	696
	<hr/>	<hr/>

## CITY AND COUNTY OF BRISTOL.

## National Insurance Act.

## PERMANENT TUBERCULOSIS SCHEME.

## A. TUBERCULOSIS DISPENSARY.

The Sub-Committee recommend :—

1. That two Dispensaries are necessary for Bristol.
2. That one Dispensary be established at 19, Portland Square, to be called "The Bristol Municipal Tuberculosis (Central) Dispensary for the Prevention of Consumption"; to provide separate waiting rooms for male and female patients, Consulting Room for the Medical Officer, Laboratory and Dispensing Rooms.
3. That the second Dispensary be a Branch Dispensary, and shall be the Bristol Dispensary for the Prevention of Consumption, at 4, Redcliffe Parade West, now taken over by the Health Committee. This Dispensary to be called "The Bristol Municipal Tuberculosis (Redcliffe Branch) Dispensary."
4. The staffing of the Dispensaries to be arranged as detailed below (Paragraph 7).
5. SANATORIUM FOR EARLY CASES.—After further consideration of the question, and after having the advantage of consulting the Local Government Board, your Sub-Committee advise :—

That, in addition to the 21 beds at present at the disposal of the City at Winsley, a further 29 beds be acquired, if possible, making a total of fifty beds available for City purposes at Winsley.

# 6. SANATORIUM FOR ALL CLASSES OF SUITABLE CASES AND AFTER-CARE CASES (60 beds).

Your Committee suggest that provision to the extent of 60 beds be provided at Ham Green in three blocks of 20 beds in each. Twenty of these beds will be for advanced cases.

# 7. SCHEME FOR STAFFING AND CONTROL OF THE DISPENSARIES, SANATORIA AND HOSPITALS.

## TUBERCULOSIS AND OTHER OFFICERS.

The Sub-Committee consider that three Medical Officers will be necessary to manage a complete Dispensary, Sanatorium and Hospital Scheme, viz. :—

- A. Tuberculosis Officer.
- B. Resident Medical Officer at Ham Green.
- C. Assistant Medical Officer.

(A). A Tuberculosis Officer to be appointed to assume general clinical control of the Central and Branch Dispensaries and all Tuberculosis work in the City. Salary £400, rising by annual increments of £50 to £500.

The Tuberculosis Officer will be a whole-time officer, attached to the Health Department under the general administrative control of the Medical Officer of Health. He will act as expert adviser to the City Insurance Committee in regard to cases of Tuberculosis amongst Insured persons.

(B). A Resident Medical Officer at Ham Green who will take charge of the Hospital and Sanatorium beds (Fever and Phthisis) under the general administrative control of the Medical Officer of Health acting as General Medical Superintendent. He will be a whole-time Officer attached to the Health Department. Salary

£300, rising by annual increments of £50 to £400, with board, rooms and attendance, less any sum received for treating Insured persons on the staff.

(C). The Assistant Medical Officer will live at Ham Green, and will assist in the Hospital and Sanatorium work, and the work of the Dispensaries, or such other work of the Health Department as may be required.

The Officer will be a whole-time Officer attached to the Health Department. Salary £200, rising to £250, with board, rooms and attendance.

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## Notification, 1913.

### TABLE I.—CASES.

15 cases were notified under the Public Health (Tuberculosis) Regulations, 1908.
54 cases were notified under the Public Health (Tuberculosis in Hospitals) Regulations, 1911.
58 cases were notified under the Public Health (Tuberculosis) Regulations, 1911.
1371 cases were notified under the Public Health (Tuberculosis) Regulations, 1912, which came into operation on the 1st February, 1913 (Pulmonary and non-Pulmonary).
<hr/> 1498 Total number notified. <hr/>

One hundred and ninety-six cases were previously notified under one or other of the various Regulations.

The actual number of new cases notified during the year was therefore 1302—924 Pulmonary and 378 non-Pulmonary, and these are dealt with in the following Tables :—

#### PULMONARY PHTHISIS.

In 596 cases, disease was reported as Phthisis of lungs
" 205 " " " " of right lung.
" 123 " " " " of left lung.
<hr/> 924

#### NON-PULMONARY TUBERCULOSIS.

TABLE showing classification of the 378 non-Pulmonary cases :—

Tuberculous Meningitis	...	...	...	48
Tuberculosis of Peritoneum and Intestines	...	...	...	62
" " Spinal Column	...	...	...	40
" " Joints	...	...	...	71
" " other Organs	...	...	...	157
Total				<hr/> 378

#### INSURANCE CASES.

TABLE showing number of Insured persons, &c. notified.

Type of Disease	Insured	Insur- able.	Depen- dants.	Non- Insured	Outside City, In- stitution, etc. Cases	Totals.
Pulmonary Tuberculosis ...	377	7	289	124	127	924
Non-Pulmonary Tuberculosis ...	73	4	172	45	84	378
Totals ...	450	11	461	169	211	1302



TABLE II.—CASES.

—:0:—

History Table, showing Relatives affected.

Type of Disease.	Father	Mother	Husband	Wife	Brother	Sister	Son	Daughter	Uncle	Aunt	G. Father	G. Mother	Cousins	No. of Cases Notified.
Pulmonary Cases (Phthisis)...	71	55	12	10	72	74	21	17	13	25	13	11	3	924
Non-Pulmonary Cases ...	16	28	...	2	13	13	1	1	13	8	6	2	...	378

TABLE III.—CASES.

## Occupations of Notified Cases.

	Pulmonary.			Non-Pulmonary.		
	Male	Fem.	Total.	Male	Fem.	Total
Agents, Canvassers, Travellers, etc.	12	—	12	2	—	2
Attendants ...	1	1	2	—	—	—
Bakers and Confectioners	3	—	3	1	—	1
Barbers, Hairdressers...	—	—	—	—	1	1
Boots, Shoes and Leather	19	6	25	3	—	3
Butchers, etc. ...	5	—	5	—	—	—
Clerks ...	28	3	31	2	1	3
Coal Merchants	1	—	1	—	—	—
Cocoa ...	3	12	15	2	1	3
Colliers	3	—	3	—	—	—
Clothing, Tailoring and Cotton	10	46	55	2	7	9
Domestic Servants	1	39	40	—	13	13
Drivers	8	—	8	2	—	2
Electricians	2	—	2	—	—	—
Engineers	15	—	15	4	—	4
Florists, &c. ...	4	1	5	—	—	—
Furniture Removers	—	—	—	1	—	1
Glass Workers	2	—	2	—	—	—
Hawkers	3	—	3	—	—	—
Home	—	6	6	—	3	3
Housewives	—	112	112	—	15	15
Ironworkers	7	—	7	1	—	1
Joiners, Carpenters, Cabinet Mak'rs	12	—	12	3	—	3
Labourers	58	—	58	17	—	17
Laundry	1	3	4	—	—	—
Masons	4	—	4	—	—	—
Mission Workers	—	2	2	—	—	—
Musicians	2	1	3	—	—	—
No Occupation	20	47	67	41	54	95
Nurses	—	3	3	—	—	—
Opticians	1	—	1	—	—	—
Painters	4	—	4	—	—	—
Paper, Printing and Stationery	9	17	26	4	4	8
Photography	1	—	1	—	—	—
Plumbers	2	—	2	1	—	1
Police	1	—	1	—	—	—
Post Office	3	2	5	1	1	2
Potters	3	—	3	—	—	—
Publicans, Barmen, &c. ...	4	—	4	1	—	1
Army and Navy	7	—	7	—	—	—
Railway	8	—	8	—	—	—
Sea	9	—	9	—	—	—
School	72	70	142	61	29	90
Shop Assistants	6	11	17	2	2	4
Shopkeepers	9	3	12	1	—	1
Surveyors	—	—	—	1	—	1
Sweets	—	2	2	—	—	—
Teachers	1	3	4	—	—	—
Tobacco	6	21	27	1	5	6
Waiters and Waitresses	—	3	3	—	1	1
Warehouses	10	—	10	2	—	2
Watchmakers and Jewellers	3	—	3	1	—	1
Whip Makers	1	—	1	—	—	—
	384	413	797	157	137	294
Outside City cases	...	...	12	...	...	3
Institution, &c., Cases	...	...	30	...	...	28
Particulars not obtainable	...	...	85	...	...	53
			Total			378

TABLE IV.—CASES.

Table showing number of Persons in patient's family.

Persons in family ...	1	2	3	4	5	6	7	8	9	10	11 and over	Outside City, Institut'ns, &c.	Totals
Pulmonary Tuberculosis ...	48	82	103	137	116	110	82	61	28	18	12	127	924
Non-Pulmonary Tuberculosis ...	17	12	41	52	50	42	34	18	15	7	6	84	378
Totals ...	65	94	144	189	166	152	116	79	43	25	18	211	1302

Number of Rooms occupied by patient's family.

Rooms occupied by patient's family	1	2	3	4	5	6	7	8 and over	Outside City, Institut'ns, &c.	Totals
Pulmonary Tuberculosis ...	48	70	77	93	87	333	41	48	127	924
Non-Pulmonary Tuberculosis ...	9	15	28	32	26	158	10	16	84	378
Totals ...	57	85	105	125	113	491	51	64	211	1302

Conditions of Houses as to Cleanliness, Dampness, Ventilation, Repair and Drainage.

In 67 cases defects were found, and notices served accordingly.

TABLE V.—CASES.

**Common and Institution Lodging House Cases.**

Notified in Common and Institution Lodging Houses:—

Pulmonary .. ..	18
Non-Pulmonary .. ..	1
Total .. ..	19

**Milk.**

795 Cases—Name of milkman reported	
229 „ Obtained from casual sellers	
67 „ Used Condensed Milk	
379 „ Milk was boiled before use	

**Disinfection.**

212 Cases—Bedding, etc., was disinfected	
327 „ Rooms were disinfected	

**Sputum Flasks.**

91 Sputum Flasks were supplied	
1098 Bottles of Disinfectant were supplied	

**Schools.**

142 Pulmonary Cases—72 Males and 70 Females—attended the Elementary Day Schools; also 89 non-Pulmonary Cases—60 Males and 29 Females.

TABLE VI.—Deaths.

Enquiry into 496 Deaths—399 Pulmonary and 97 non-Pulmonary—returned from Tuberculosis:—

	Pulmonary	Non-Pulmonary	Total
Died at Home .. ..	305	58	363
„ Stapleton Workhouse ..	41	2	43
„ Eastville Workhouse ..	5	5	10
„ Southmead Workhouse ..	11	—	11
„ Lunatic Asylum ..	16	2	18
„ Other Institutions ..	21	30	51
	399	97	496

TABLE VII.—Deaths.

Year of Notification of 496 Fatal Cases—399 Pulmonary and 97 Non-Pulmonary:—

Deaths amongst cases notified in—	Pulmonary	Non-Pulmonary	Total
1905 .. ..	2	—	2
1906 .. ..	2	—	2
1907 .. ..	3	—	3
1908 .. ..	3	—	3
1909 .. ..	10	—	10
1910 .. ..	15	—	15
1911 .. ..	25	—	25
1912 .. ..	125	—	125
1913 .. ..	214	97	311
	399	97	496

**Disinfection.**

231 Cases—Bedding, &c., disinfected	
275 „ Rooms were sprayed	

## WINSLEY & HAM GREEN SANATORIA.

### City-Maintained Beds, 1913.

During the year 34 Males and 67 Females (non-insured persons) made application to the Bristol Health Committee for Sanatorium treatment.

The ages of these 101 applicants were 45 under 15; 11 at ages 15 to 25; 45 at ages 25 to 65.

The following Table shows how the applications were dealt with—

- 80 admitted to Sanatoria (Winsley 19, Ham Green 61).
- 1 not accepted by Committee.
- 2 rejected by Medical Consultative Board as "not suitable."
- 3 rejected by Tuberculosis Officer as "not suitable."
- 13 withdrawn.
- 2 died after receipt of application.

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101 Total.

### Winsley Sanatorium.

Admitted to the Sanatorium 54 Males, 45 Females. Total 99 (insured 80, non-insured 19).

Discharged from the Sanatorium: 50 Males, 43 Females. Total 93.

Average daily occupation = 24'22.

The "Class" in which the 93 discharged cases were placed on admission to the Institution (Winsley Resident Medical Officer's selection):—

Class I.	Cases 24
„ II.	„ 38
„ III.	„ 23
„ IV.	„ 6
Unclassified	„ 2
	93

### CONDITION STATED UPON DISCHARGE.

- 76 discharged improved.
  - 5 discharged little improved.
  - 10 discharged not improved.
  - 2 prematurely discharged.
  - 93 Total.
-

### After History.

#### AFTER HISTORY OF PATIENTS TREATED IN THE BRISTOL MAINTAINED BEDS AT WINSLEY SANATORIUM.

Year of Discharge	Total No. Discharged.	Alive on 31st December. 1913.	Well and Working Capacity Maintained	Whereabouts unknown.	Dead.
1905	45	3	2	16	26
1906	67	10	9	12	45
1907	68	16	14	32	20
1908	78	18	12	22	38
1909	75	20	17	27	28
1910	67	19	14	15	33
1911	68	25	20	25	18
1912	80	46	36	11	23

### Ham Green Sanatorium.

Ninety-one patients were admitted to Ham Green Sanatorium (14 Males and 77 Females), 34 being insured persons, and 57 non-insured.

Average daily occupation, 25.75.

When the *early* cases were discharged, all symptoms and nearly all the physical signs of the disease had disappeared. These cases may be regarded as being cured, for the time at least, and were fit to resume their ordinary occupations. In none of these was the tubercle bacillus found on discharge.

Four of the moderately advanced cases were discharged with all symptoms of the disease gone, including the disappearance of the bacillus from the sputum. These were quite able to resume work, the disease being arrested. In one the disease still showed some signs of occasional activity—a chronic fibroid variety of case—but was greatly improved.

Among the eight advanced cases—of which three were complicated by laryngitis—in six the disease was arrested, the patients being restored to very fair health; one was no better, and one was worse.

All the patients were treated with continuous inhalation, combined with graduated labour and tuberculin injections where advisable.

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# **NATIONAL INSURANCE ACTS, 1911-1913.**

## **The Insurance Committee for the Borough of Bristol.**

### **SANATORIUM BENEFIT.**

During the year (January 15th, 1913, to January 11th, 1914) the following cases were treated by the Insurance Committee :—

#### **INSURED PERSONS.**

	Men	Women	Total
In Sanatoria ...	107	99	206
Dispensary ...	94	53	147
Domiciliary ...	82	39	121
	<u>283</u>	<u>191</u>	<u>474</u>

#### **DEPENDANTS.**

	Men	Women	Total
In Sanatoria ...	1	4	5
* Domiciliary ...	3	5	8
	<u>4</u>	<u>9</u>	<u>13</u>

\* Three of the Domiciliary cases are still receiving treatment.

The cost of the treatment was as under :—

	£	s.	d.
Sanatorium treatment ...	4,003	18	0
Dispensary treatment ...	474	19	10
*Domiciliary treatment ...	3,144	14	6
Incidental and Administra- tion Expenses ...	691	14	9
	<u>£8,315</u>	<u>7</u>	<u>1</u>

\* The amount of £3,144 14s. 6d. for Domiciliary treatment includes the 6d. per insured person paid to Practitioners on the Panel. All the other expenditure the Committee has control over.

As beds are not available in the City, patients were sent to the undermentioned Institutions :—

Maitland Sanatorium, Peppard Common, Oxon	23
Winsley Sanatorium (non-maintained beds) ...	37
Royal National Sanatorium, Bournemouth ...	10
Woodhurst Sanatorium, Dorking ...	2
Mendip Hills Sanatorium ...	2
Mount Sanatorium, Bromsgrove ...	1
National Hospital, Ventnor ...	1
Engel Home, Cheddar ...	4
	<u>80</u>

Accommodation provided by the Health Committee :

Winsley Sanatorium, Winsley, near Bath ...	89
Ham Green Sanatorium ...	42
	<u>131</u>

SYDNEY C. PAGET,

*Clerk to the Bristol Insurance Committee*

**CITY OF BRISTOL.**

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January 3rd, 1913.

**PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1911  
NOTICE TO INSPECTORS.**

**Special Action.**

When visiting Pulmonary Tuberculosis cases, the Inspector should report to the Medical Officer of Health any steps that may appear to him to be necessary or desirable for preventing the spread of infection, and for removing conditions favourable to infection.

**Cards.**

Every detail upon the small Phthisis card must now be filled in, and special care taken to enter the names of the schools attended by children who live in a house from which a case of Phthisis has been notified. Sunday Schools and other meetings to be noted.

The School Card should be filled up without delay, and handed in for transmission to the School Medical Officer.

**The Position of Persons Notified.**

Tuberculosis of the Lung is usually a chronic disease, the infection is limited, and infection can be prevented by the patient himself when he has learnt, and is not too ill to practise, elementary precautions. This is the reason for the issue of a special code of regulations under Section 130 of the Act of 1875. The fact that the patient may be trained, and may as a result cease to be a source of infection, in which case he need be subjected to no disability, should be made clear to the patient.

It is, of course, unnecessary and undesirable that notification should involve publicity. The Local Government Board have no doubt that Local Authorities and their officers will avoid doing anything which would cause pain or annoyance to patients or their friends. It cannot be too strongly emphasised that any records in relation to persons notified should be regarded as strictly confidential documents, for whose custody the Medical Officer of Health is personally responsible.

(Signed) D. S. DAVIES, M.D.

# AMBULANCE RECORD, 1913.

## Infectious Cases Removed.

MONTH.	MOTOR AND HORSE AMBULANCES.					MOTOR AMBULANCE.		
	Cases Removed (Total).	Cases Removed (Average Daily)	Journeys	Mileage (Total)	Mileage (Average Daily)	No. of days used.	Mileage (Total)	Mileage (Average daily—when used).
January	94	3.0	69	1,088	35.0	20	789	39.4
February	91	3.2	59	940	33.5	13	485	37.3
March	84	2.7	71	1,048	33.8	...	...	...
April	81	2.7	57	852	28.4	6	225	37.5
May	59	1.9	50	780	25.1	21	536	25.2
June	73	2.4	56	903	30.1	21	749	35.6
July	89	2.8	66	1,020	32.9	22	908	41.2
August	76	2.4	60	910	29.3	25	827	33.0
September	110	3.6	74	1,119	37.3	23	921	40.0
October	190	6.1	109	1,689	54.4	28	1,562	55.7
November	158	5.2	96	1,489	49.6	27	1,301	48.1
December	209	6.7	96	1,555	50.1	25	1,367	54.6
TOTALS	1,314	3.6 (Average Daily)	863	13,393	36.69 (Average Daily)	231	9,670	41.86 (Average Daily)

## DISINFECTION STATION AND AMBULANCE SERVICE.

The Disinfection Station is on the site formerly occupied by the City Small-pox Hospitals in St. Philip's Marsh, and the buildings now comprise :—

(1) Disinfecting Block containing two Steam Disinfecting Machines, Receiving Room, Clearing Room, and a Boiler House.

These rooms have been erected for some years, and are sufficient for the purpose, except that the Boiler House would be more convenient if a little larger. No laundry is attached, as this was deleted from the original plans.

(2) The new Stable buildings, completed in 1906, comprise stalls for eight horses and two loose boxes. The stabling is of modern construction, fairly lighted and well ventilated, and has enough accommodation to meet the requirements of the Ambulance and Disinfecting Services. Near to the Stable is a small forage room, and a harness room which is also used as a mess room and offices.

The Stable was so designed that conversion to a motor house would be simple and inexpensive.

The old sheds have been enlarged and adapted to serve as coach house and cart shed.

The Ambulance Service is to be removed from Clift House Stables, where there is cottage accommodation for both the ambulance driver and the stableman.

In October, 1909, a Motor Van commenced running for the collection of infected articles. This Motor Van displaces the services of two drivers and two horses. It is worked in conjunction with a horse

delivery cart for the return of articles after disinfection. Only one horse is now attached to the Disinfecting Service.

In November, 1912, a Motor Ambulance was provided for the removal of patients to Hospital, replacing the two pair-horse Ambulances, which are now in use in relief; but, in case of Small-pox, both might be found necessary for routine service.

The removal officer lives on the premises with his wife, and they act as caretakers. The Ambulance nurse also lives on the premises, and separate Isolation Room accommodation under the Infectious Diseases (Prevention) Act, 1890, is provided.

Plans have been approved for the erection of cottage accommodation for the Ambulance drivers on the premises.

I am, my Lord Mayor and Gentlemen,

Your obedient Servant,

D. S. DAVIES, M.D., LL.D., D.P.H.

*Medical Officer of Health for the City and County of Bristol, and for the Port of Bristol; General Medical Superintendent City Hospitals; Lecturer on the Principles and Practice of Public Health, University of Bristol (Medical School), and Internal Examiner in Public Health to the University; Past President of the Society of Medical Officers of Health; of the Bath and Bristol Branch of the British Medical Association and of the Bristol Medico-Chirurgical Society; formerly Examiner in State Medicine (M.D. Examination), University of London, and for the D.P.H. (Part II.) Examination (Conjoint Board); Member of Board of Examiners of the Royal Sanitary Institute; Late Medical Inspector (on Cholera Survey and General Sanitary Survey of England) to H.M. Local Government Board; Sur. Col. (retd.) V.D. 1st Glos. R.G.A. (V.); Lt. Col. R.A.M.C. Sanitary Service Territorial Force, etc.*

June, 1914.

## THE MIDWIVES ACT, 1902.

### Report for the Year 1913.

The administration of the above Act, which had previously been in the hands of the Watch Committee, was transferred to the Health Committee by resolution of the Council on 3rd October, 1911. The work, however, continued to be carried out by the Divisional Police Surgeons until 11th April, 1912.

The past year (1913) is therefore the first complete year during which this work has been in the hands of your Committee.

### MIDWIVES IN PRACTICE.

Seventy-seven Midwives notified intention to practise in the City during 1913. Of these 12 are attached to Nursing Homes or Institutions, and 65 are in private practice; 12 Midwives practising live outside the City boundary—7 attached to Institutions, 5 in private practice.

The following Table shows the number of Midwives resident in the City, and the number of those in actual practice :—

Qualification.	Resident.	In actual Practice.
Central Midwives Board ...	198	20
London Obstetrical Society ...	117	14
Rotunda Hospital ...	6	1
Queen Charlotte's Hospital ...	2	—
Glasgow Maternity Hospital ...	1	1
Coombe Hospital ...	1	1
City of London Lying-in Hospital	1	1
Liverpool Lying-in Hospital ...	1	1
	327	39
In practice prior to July, 1901 ...	56	38
Totals ...	383	77



Notices of temporary practice in this area were received during the year from four certified midwives resident outside the City.

One instance occurred of a certified midwife who practised while on a visit to the City, failing to give notice to the Authority, as required by Section 10. The circumstances, on enquiry, did not appear to justify action.

#### CASES ATTENDED.

Out of a total of 6,917 births notified, 4,854 (70 per cent.) were notified by midwives. Of these, 215 were still-births. All midwives' cases are visited as far as is possible with an insufficient staff. Still-births are not at present being visited.

#### SUPERVISION.

164 visits were paid during the year to midwives in private practice in the City and residing therein. Those resident in the Gloucestershire District are, by arrangement with Gloucestershire Supervising Authority, kept under supervision by that Authority, and no longer visited by us, save for some very special reason.

The condition of the registers, residence, dress, bag, appliances, antiseptics, and labels of 17 midwives was found to be quite satisfactory at each visit during the year.

The following Table gives the nature of defects found to exist on inspection of the remainder of the midwives :—



## DEFECTS FOUND ON INSPECTION.

					Visits.			Total
					1st	2nd	3rd	
<i>Register</i>	{ 1. Not kept ...	...	2	1				3
	{ 2. Not properly kept		5	1	1			7
	{ 3. Behind ...	...	9	12				21
<i>Residence</i>	{ 1. Dirty ..	...	2	2				4
	{ 2. Untidy ...	...	1	5	1			7
<i>Dress</i>	1. Not cotton	...	3	1				4
<i>Bag</i>	{ 1. No bag ...	...	1					1
	{ 2. Soiled lining	...	1	3				4
	{ 3. Not lined ...	...	3					3
	{ 4. Badly equipped	...	3	3	1			7
<i>Appliances, &amp;c.</i>	{ 1. None ...	...	1					1
	{ 2. 1 Syringe only	...	11	8	3			22
	{ 3. No thermometer			3				3
<i>Antiseptics</i>	{ 1. Not suitable	...	1	1				2
	{ 2. Not sufficient	...	2	2				4
<i>Labels</i>	{ 1. Bottles not labelled		1	6	2			9
	{ 2. Labels soiled	...		1				1
Totals ...			46	49	8			103

NOTE.—The above faulty conditions were all remedied.

During the year, three midwives died, and one midwife was removed from the Roll, as reported below; two midwives left Bristol, and one changed her address without notifying the Authority: her present address cannot be ascertained. Two midwives decided to relinquish practice, but their names remain on the Midwives' Roll; they have virtually retired. Eight changes of address were notified under Rule E. The Central Midwives' Board were duly informed of the removals and deaths which occurred.

## SUSPENSION OF MIDWIFE BY SUPERVISING AUTHORITY.

It was found necessary to suspend one midwife, with whom there had frequently been difficulties over matters of routine, from practice from 23rd to 27th August, on account of her refusal to submit her clothes and appliances to disinfection by the Authority after a case of Puerperal Fever had occurred in one of her patients: there was also considerable doubt as to proper attention having been paid to the patient. She was required by letter on 21st and 22nd August to comply with our requirements, and informed that she would be suspended if she did not do so. She did not comply, and was suspended on 23rd, her suspension being reported to the Central Midwives' Board. On the 26th she at last agreed to bring her things for disinfection, and the suspension was removed on the 27th. This midwife left Bristol, and I believe the country, shortly after.

## REMOVAL FROM MIDWIVES' ROLL.

A midwife, against whom a complaint of neglect of duty and drunkenness when in attendance on a case in November, 1912, had been received, and whom I personally saw and cautioned, was kept under supervision, and several further instances of neglect and insobriety having come to our knowledge, the circumstances were reported to the Local Supervising Authority. On 18th February that Authority resolved that the evidence be submitted to the Town Clerk to determine whether a *prima facie* case of malpractice, negligence, or misconduct was made out; and if so, the necessary report to the Central Midwives' Board was to be made. On 3rd March the Town Clerk reported that there appeared to be a clear *prima facie* case, and the matter was referred to the Central Midwives' Board,

before whom the case was heard on 24th April. That Board considered the case proved, and removed this midwife's name from the Roll.

#### PRACTICE BY UNCERTIFIED WOMEN.

Several cases of alleged practice by uncertified women were enquired into.

(1) One of the Health Visitors noticed a plate, stating—"Mrs. —, Certified Midwife," and called. The woman said she only attended cases occasionally, the last being in December, 1912. She had not a Central Midwives' Board's Certificate, but did not appear to know she was doing wrong. She was warned not to practise as a midwife, and promised to have the plate removed; this was done.

(2) A complaint by a midwife of attendance by an uncertified woman on certain cases showed she had only acted in emergency; though apparently, until about two years ago, she acted regularly as a midwife. She still washes babies for doctors, and occasionally for midwives. Cautioned not to practise as a midwife.

(3) Rumours of attendance as midwife by an uncertified woman were enquired into, and the woman stated that until a few years ago she practised regularly, but since then only attends cases with a doctor. Cautioned not to act as midwife.

(4) A case of attendance at an illegitimate birth was enquired into, and the mother definitely stated that the woman was not previously engaged, but sent for in the night in emergency and found the baby born. Cautioned.

(5) Enquiry proved emergency attendance only. Cautioned.

(6) Evidence that an uncertified woman, Mrs. M—— (who had asked how she might become qualified in October, 1912, and had then been cautioned not to act as midwife till qualified, and had since attended several cases and received payment) having been obtained, the case was referred to the Supervising Authority, with the submission that the Town Clerk's opinion be asked as to whether the evidence warranted prosecution. That Authority considered the matter on 2nd September, and resolved: "That the Inspector interview Mrs. M——, and inform her that she has committed a breach of the Act and rendered herself liable to prosecution, and advise her that she must cease from practising as a midwife unless she qualifies and becomes registered under the Act of 1902." She was accordingly interviewed on 15th September and warned: at the same time she was informed that there was no reason whatever against her acting as monthly nurse under a doctor. She said she quite understood what was meant. Whether this second warning will be more effectual than the first remains to be seen.

(7) Case attended by uncertified woman. The mother tried to engage this woman, who stated she refused unless a doctor was engaged. She was sent for in a great hurry, and the child was born a few minutes after her arrival. She continued in attendance, and was given 10/6. Warned that if found practising again further steps would be taken.

(8) Case attended in emergency. Cautioned not to practise as a midwife.

(9) Uncertified daughter of midwife tried to persuade person sent to summon her mother to take her as her mother's deputy "as she had been out like that before"; but her services were refused. Warned that such action is illegal.

(10) Information received of attendance on a case by an uncertified woman; apparently an emergency attendance. Warned.

### **Puerperal Fever.**

During the year there were 23 cases notified, ten less than in 1912. Of these 13 occurred in women attended by medical men, and 10 among those attended by midwives. As 70 per cent. of the notified births were attended by midwives, the proportion of cases of this disease among their patients appears to show that they received satisfactory care and attention from those in attendance. There was no instance of multiple cases in one person's practice arguing carriage of infection. Each midwife concerned had a disinfecting bath at the Central Disinfecting Station, under the supervision of the Ambulance nurse. Their clothes and instruments were also dealt with, and new instruments were supplied when considered necessary.

## FORMS A.B.C.D. RECEIVED DURING 1913.

*Form A.*—Medical help was advised by midwives on 437 occasions for the following reasons:—

MOTHER.				No.
Abnormal Presentation	...	...	...	31
Prolonged and Obstructed Labour	...	...	...	36
Instrumental Assistance	...	...	...	22
Uterine Inertia	...	...	...	12
Contracted Pelvis	...	...	...	9
Adherent or Retained Placenta	...	...	...	27
Placenta Prævia	...	...	...	2
Hæmorrhage	Ante-Partum	...	...	8
	Post-Partum	...	...	3
	Concealed	...	...	1
	Not specified	...	...	2
Ruptured Perinæum	...	...	..	57
Pain and tenderness over Uterus	...	...	...	1
Prolapse of Cord	...	...	...	1
Rigid Os	...	..	...	3
Miscarriages	...	...	...	7
Fainting during Labour	...	...	...	1
Pyrexia	...	...	...	17
Weakness	...	...	...	2
Sickness	...	...	...	1
Phlebitis	...	...	...	2
Debility	...	...	...	3
Pleurisy	...	..	...	1
Bronchial Catarrh	..	...	.	1
Heart Trouble	..	...	...	1
Chest „	...	...	..	3
Kidney „	...	...	...	2
Offensive Urine	...	...	...	1
Distended Breast	...	...	..	1
Abscess on Breast	...	...	...	1
„ „ Face	...	...	...	1
Flatulence	...	...	..	1
Various	...	...	...	4

CHILD.				No.
Ophthalmia Neonatorum	...	...	...	3
Eyes	{	Discharging	...	45
		Inflamed	...	23
		Weak	...	4
Convulsions	...	...	...	7
Feebleness	...	...	...	37
Stillbirths	...	...	...	9
Asphyxia	...	...	...	4
Spina Bifida	...	..	...	2
Retention of Urine	...	...	...	2
Tongue Tied	...	...	...	3
Deformed	...	...	...	2
Growth on back of head	...	...	...	1
Jaundice	...	...	...	7
Debility	...	...	...	1
Swelling of Legs, Body, &c.	...	...	...	2
Inflamed Testicles	...	...	...	1
Wasting	...	...	...	1
Skin Eruption...	...	...	...	4
Swelling near Umbilicus	...	...	...	1
Inflammation round Umbilicus...	...	...	...	1
Chest Trouble	...	...	..	1
Not definitely stated	...	...	...	11



*Form B.*—Three deaths from non-infectious disease were notified on Form B by Midwives.

*Form C.*—146 forms notifying stillbirths were received. Particulars of 69 stillbirths attended by Institution Midwives were not obtained, as they are not required to notify under the Central Midwives' Board's Rules. The following Table shows the condition of child and presentation, with period of pregnancy, in the 146 cases notified on Form C by Midwives in private practice.

Condition of Child and Presentation.	PERIOD OF PREGNANCY.					Total.
	Nine Months.	Eight Months	Seven Months.	Six Months and under.	Not specified	
Macerated ...	22	11	17	6	7	63
Not Macerated	38	11	18	12	4	83
Vertex ...	39	13	19	7	3	81
Breech ...	8	1	2	2	2	15
Footling ...	6	...	3	1	3	13
Transverse ...	2	...	...	...	1	3
No information	5	8	11	8	2	34
Total ...	60	22	35	18	11	146

*Form D.*—Two notices on Form D of having laid out a dead body were received.

## THE YEAR'S WORK.

As previously stated, fairly continuous supervision has been exercised over the midwives, and there is undoubtedly considerable improvement in their equipment and the manner in which their registers are kept over that which obtained in the latter part of 1912.

The difficulty in securing the transmission of the various notices (sending for Medical help, stillbirth, &c.), required by the rules, has largely disappeared. There was, during the first part of the year, a disposition on the part of many midwives not to hand the Form advising medical help to parents in the case of infants showing "inflammation of, or discharge from, the eyes, however slight," and thus many cases of eye discharge only became known to us through the Health Visitor's report on visiting. Possibly, this unwillingness might have been due to the idea that blame would attach to the midwife through the occurrence of eye discharge. In all cases where medical help was not advised a letter was sent to the midwife stating her duty under the Rules, and pointing out that it was to her own advantage to advise the parents to obtain medical help for the child, as, by so doing, she was freeing herself from a possible charge of malpractice or negligence, which might be brought against her should ill result arise from the eye condition. I think help is now advised in practically all cases, and the receipt of the duplicate Form puts us in a position to exercise at once some supervision over, and give advice in, such eye cases, of which 75 were reported during the year. Towards the end of the year these eye-cases were visited fairly constantly till well.

As will be seen from a previous table, the number of unqualified midwives in actual practice is practically the same as that of the qualified. It is a matter for regret

that some of the former are unable to take temperatures; some cannot be taught to do so: one cannot see well enough, and several are very advanced in years. On the whole, however, they do endeavour—and fairly successfully—to comply with the Central Midwives' Board's requirements.

There was at one time apparently a feeling of resentment on the part of some midwives at what they considered unwarranted interference by the Health Visitors. This feeling was, I think, due to a misapprehension; it was not understood that the Health Visitors were also Deputy Inspectors of Midwives, and as such, had a right to supervise their practice. This fact has been pointed out, and I hope, and think, there will be no further misunderstanding or dissatisfaction.

I believe that now the relations between the Supervising Authority, its officers, and the midwives are better understood, and appreciated, by all concerned, and, in view of the fact that this is the first whole year during which the Act has really been enforced, I think the completeness and smoothness of working already attained is matter for congratulation.

JOHN C. HEAVEN, D.P.H.,

Acting Medical Inspector of Midwives.

## NOTIFICATION OF BIRTHS ACT, 1907.

Adopted by Council: 12th December, 1911.

Sanctioned by Local Government Board:—16th February, 1912.

Administration commenced:—17th October, 1912.

### Births Notified.

During the year 6,917 births (including 306 stillbirths), were notified—3,520 males and 3,397 females. There were 98 sets of twins and two of triplets; of the triplets one set is still living and doing well.

Of the births registered during the year 80·02 were notified.

The following Table (I.) shows the distribution of these births in the various Registration Sub-districts, and the number registered in the same areas.

TABLE I.

Registration Sub-District.	BIRTHS NOTIFIED.			Births Registered
	Living	Still-born	TOTAL	
Ashley ...	542	37	579	750
Bedminster ...	1,362	62	1,424	1,629
Bristol Central ...	790	47	837	935
Clifton ...	519	21	540	701
Knowle ...	202	7	209	444
St. George ...	1,310	61	1,371	1,524
St. Philip ...	1,261	45	1,306	1,391
Stapleton ...	397	19	416	607
Westbury-on-Trym	228	7	235	280
Totals ..	6,611	306	6,917	8,261

The following Table (II.) shows by whom the births were notified.

TABLE II.

Notified by		Living	Still-born.			TOTAL
			Sex.			
				M.	F.	
Doctors	...	1,472	77	43	34	1,549
Fathers, &c.	...	500	14	10	4	514
Midwives	...	4,639	215	125	90	4,854
Totals	...	6,611	306			6,917

Number of primipara cases 532 (497 full-time, 35 premature.)

#### Action following on Notification.

This has necessarily been inadequate, owing to insufficient staff. It is desirable that one visit at least should be paid to every case notified by a midwife, to other cases where a doctor reports visiting advisable; and, in those notified by relatives, where it seems necessary. The rule for visits is at present :—

Midwives' cases, 3rd day  
 Institution „ 10th day  
 Doctors' „ (only on special request)  
 14th day.

It has been quite impracticable to carry out even one visit in accordance with the above rule, and no less than 970 cases which should have been seen, had to be left entirely unvisited, because the two Health Visitors, though extremely keen and hard-working, cannot get through more than a certain amount of work: time alone will not allow them.

On calling, the Health Visitor collects certain information with regard to the mother and child, gives advice on matters where it seems called for, and leaves a card of instructions as to infant feeding and management (vide end of report—No. 1). The number of these instruction cards left was 3,348.

Further instructions in leaflet form (vide end of report, No. 2) are also left where artificial feeding is unfortunately necessary; or they can be obtained from the Department later by mothers who are for any good reason compelled to cease breast-feeding. In all cases, however, the importance of breast-feeding is emphasised, and mothers are encouraged to adopt it.

The following Table gives the number of visits made.

TABLE III.—CASES VISITED.

Once	Twice.	Three Times	Four Times.	Five Times	Six Times	Total Cases Visited	Total No. of Visits
3,394	143	29	4	1	4	3,575	3,812

In 75 instances only, was objection to visitation by the Health Visitors raised by parents; in 81 the Health Visitor, on calling, considered it undesirable to make enquiries—in most instances because a doctor was still in attendance; and in 40 cases the mother and child were found to be out.

The following Tables (IV. and V.) show various ailments of mother or child, either notified by midwives on Form A, or discovered by the Health Visitors.



TABLE IV.

AILMENTS OF MOTHER.		
<i>Noted on C.M.B. Form A by Midwife.</i>		<i>Noted by Health Visitor.</i>
Abnormal Presentation ...	31	Respiratory System ... 6
Prolonged and obstructed Labour ...	36	Bad Throat ... 2
Instrumental Assistance ...	22	Urinary System ... 2
Uterine Inertia ...	12	Neuralgia, &c. ... 4
Contracted Pelvis ...	9	Breast Trouble ... 13
Adherent or Retained Placenta or		Pyrexia ... 10
Membrane ...	27	Anæmia ... 7
Placenta Prævia ...	2	Dropsy ... 1
Hæmorrhage—Ante-Partum ...	8	Varicose Veins ... 4
Do. Post-Partum ...	3	Rheumatism ... 1
Do. Concealed ...	1	Rash ... 2
Do. Not Specified ...	2	Inguinal Hernia ... 1
Ruptured Perinæum ...	57	Weakly or not doing well ... 31
Pain and tenderness over Uterus ...	1	
Prolapse of Cord ...	1	
Rigid Os ...	3	
Fainting during Labour ...	1	
Pyrexia ...	17	
Weakness ...	2	
Sickness ...	1	
Phlebitis ...	2	
Debility ...	3	
Pleurisy ...	1	
Bronchial Catarrh ...	1	
Heart Trouble ...	1	
Chest „ ...	3	
Kidney „ ...	2	
Offensive Urine ...	1	
Distended Breast ...	1	
Abscess in Breast ...	1	
„ „ Face ...	1	
Flatulence ...	1	
Stillbirths ...	9	
Various ...	4	
	267	84

## AILMENTS OF CHILD.

Ophthalmia Neonatorum ...	3	EYES—Discharging ... 100
EYES—		Swollen ... 3
Discharging ...	45	Inflamed ... 21
Inflamed ...	23	Weak ... 94
Weak ...	4	RESPIRATORY—Bronchitis ... 2
Convulsions ...	7	Dyspnœa ... 1
Feebleness ...	37	DIGESTIVE—Thrush ... 27
Asphyxia ...	4	Jaundice ... 13
Spina Bifida ...	2	Vomiting ... 4
Retention of Urine ...	2	Hæmatemesis ... 1
Tongue Tied ...	3	SKIN—Red Gum ... 6
Deformed ...	2	Eczema ... 1
Growth on back of Head ...	1	Septic Sores, Eruptions, &c. ... 8
Jaundice ...	7	Rash ... 1
Debility ...	1	Badly Flea Bitten ... 3
Swelling of Legs, Body, &c. ...	2	CORD—Not Separated (18th day) ... 1
Inflamed Testicles ...	1	Umbilicus Inflamed ... 1
Wasting ...	1	Umbilicus Prominent ... 1
Skin Eruption ...	4	HERNIA—Umbilical ... 2
Swelling near Umbilicus ...	1	Inguinal ... 1
Inflammation round Umbilicus ...	1	Snuffles ... 4
Chest Trouble ...	1	Specific ... 1
Not definitely stated ...	11	Breasts very Hard ... 1
	163	Cyanosis ... 4
		Cold ... 4
		Nævus ... 3
		Coma ... 1
		Brain Trouble ... 1
		Feebleness ... 3
		Cephal-hæmatoma ... 2
		Pyrexia ... 1
		Enlarged Thyroid Gland ... 1
		Various ... 3
	163	320
TOTAL ...	430	TOTAL ... 404



TABLE V.

DEFECTS AND INJURY AT BIRTH NOTED BY HEALTH VISITORS.				
Tongue-tied	...	...	...	12
Cleft Palate	...	...	...	4
Hare-lip ...	...	...	...	2
No Hands	...	...	...	1
Two Thumbs (right hand)	...	...	...	1
Two Fingers, one Thumb (left hand)			}	1
Three „ „ „ (right hand)				
Deformed Feet	...	...	...	2
Paralysed Arm	...	...	...	1
Paralysed Hands	...	...	..	1
Dislocated Shoulder	...	...	..	1
Fractured Leg	...	...	...	1
Forceps injury	...	...	...	3
Face Abrasions	...	...	...	1
Total				31

On 163 occasions the Health Visitor advised that a doctor should be sent for, to see the mother or child, and in most instances the advice was taken. The midwife in attendance on the case was also advised on 10 occasions that special attention was required on her part.

TABLE VI.

PARTICULARS AS TO INFANTS' OBTAINED AT VISITS.				
CONDITION AT BIRTH.		Full Time	Premature	Total
Healthy	...	2995	50	3045
Fairly Healthy	...	167	27	194
Weakly	...	60	80	140
Not ascertained	...	—	—	196
Totals		3222	157	3575

WEIGHT.—Children weighed, 2733. Full-time, 2641; premature, 92. 278 were not weighed owing to the mother considering it “unlucky.”

The following table summarises the results of weighing.

TABLE VII.

Weighed in—		Number Weighed.	Lowest Weight.	Highest Weight.	Average Weight.
Full Time	First Week	2057	3 lbs.	14 lbs.	8·21
	Second Week	494	3 $\frac{1}{4}$ lbs.	12 $\frac{3}{4}$ lbs.	8·5
	Third Week	90	6 lbs.	11 lbs.	8·6
Premature	First Week	66	2 $\frac{1}{2}$ lbs.	8 lbs.	5·21
	Second Week	23	4 $\frac{1}{2}$ lbs.	7 lbs.	5·95
	Third Week	3	5 lbs.	6 $\frac{1}{4}$ lbs.	5·66

FEEDING.—The following table gives the method of feeding found in use at first visit.

TABLE VIII.

Method of Feeding.	Full Time.	Premature.	Total.
Breast Fed ... ..	3017	128	3145
Partially Breast Fed	56	7	63
Bottle Fed ... ..	140	12	152
Spoon Fed ... ..	9	10	19
Total ...	3222	157	3379
Irregular feeding noted, and instructions given, in 668 cases.			

From the above Table it will be seen that of the 3379 cases in which particulars were obtained, no less than 3145 were entirely breast-fed, as compared with 152 entirely bottle-fed; 62 infants were fed from breast and bottle. In those cases where a spoon was used for feeding there was some special reason, such as hare-lip or cleft-palate, or extreme weakness on the part of the child.

In my last report it was noted that the tube bottles used exceeded the boat bottles by ten; this year it is satisfactory to find that the proportion is reversed, and the tube bottles (67) are outnumbered by the boat bottles (148) by 81.

It would be an excellent thing if the use of tube bottles were prohibited, as it is in some countries, and that harmful abomination, the "comforter" or "dummy," might with advantage be included in the prohibition. Failing this, however, it would be very helpful if your Authority followed the example of the Aberdeen Health Department and exchanged tube bottles for boat bottles, free of charge, to any mother applying for one.

The proportion of breast to bottle-fed infants is high, and may be due to the fact that the information was obtained shortly after birth. If it had been possible to follow the cases up, it would very likely have been found that the breast was discontinued for the bottle earlier than it should be, and this is one direction in which ability (dependent on sufficient staff) to keep cases under observation is desirable, because the mortality in breast-fed infants is very much less than among the bottle-fed.

Among the foods found in use at the time of first visit were:—

Condensed Milk, 42.      Patent Foods, 19.  
Milk Powder, 3.

Besides the above, other articles given, the use of which

was of course, prohibited, were porridge, jam, biscuits, boiled bread, bottoms, rabbits' brains, and arrowroot.

Stimulants were found given in the form of brandy and water, brandy and barley water, and brandy and albumen water, in five instances. In only one of these were they being used without medical sanction.

In a few instances, where artificial feeding had to be adopted, some form of dried milk was supplied for a time by the Department.

In only 161 cases was the child, on first visit, sleeping separately from the mother. Seven mothers were found up prematurely—four on the seventh, one on the eighth, and two on the ninth day.

As an incidental result of the visits paid, 49 references were made to the chief Inspector of Nuisances, of which the following is a list.

TABLE IX.

References to Chief Inspector of Nuisances.			
Condition Requiring Attention	Number.	Remedied	No Action.
Probable Over-crowding	17	9	8
Fixed Windows ...	16	16	
Dilapidations ...	6	6	
Dampness .. ..	2	2	
Defective Drains ...	2	2	
Defective Roofs ...	1	1	
Dirty Walls ... ..	2	2	
Miscellaneous ...	3	3	
Total ...	49	41	8

OPHTHALMIA NEONATORUM—It is not possible to form any reasonable estimate of the number of cases of this disease occurring. The severity of the 293 cases of eye affection noted varied very greatly from a simple “weakness” to marked “discharge”; but in only a very few did the affection appear to approach ophthalmia neonatorum. It was not possible to keep these cases under observation, but advice was given to the parents to call in a doctor, or to send the child to one of the Institutions, and this was done in many instances.

The apparent reluctance noted last year, on the part of midwives, to advise sending for medical help in eye cases, and to notify the Supervising Authority of their occurrence, is gradually becoming less noticeable. Of the 293 eye cases, 75 were notified by midwives on Form A. The other 218 were found by the Health Visitors, but it is only fair to say that a good many of these were found after the midwife had ceased attendance, and she may never have seen them.

Only sixty of the 293 cases are known to have recovered, fourteen midwives' cases, and forty-six Health Visitors' cases. In the first three quarters of the year it was, for various reasons, found impossible to follow eye cases up, but during the last three months those occurring were visited from time to time until recovery. This work, however, resulted in the non-visiting of many notified births.

The importance of prompt and efficient attention to every case of eye trouble in the newly born child can hardly be over-estimated, if the fact be remembered that the great majority of the blind, who have to be cared for in the Blind Institutions, are sufferers from the effect of neglected inflammation of babies' eyes. Yet the greater number of these persons would not have become blind if properly cared for at the time. It is for this reason that

prompt information as to eye affection by midwives is so desirable. The question of the compulsory notification of this disease was dealt with in my last Annual Report, and I have nothing to add to what was then said; there seems, however, reason to think that the Local Government Board will before long make the disease notifiable.\*

### **Co-operation with Public Agencies.**

There are existing in the City a number of agencies concerned with the provision of help and advice to lying-in women and mothers. In my last Annual Report I stated that "such Associations as the Schools for Mothers are worthy of all possible encouragement and assistance. They are already doing excellent work, which, if extended, cannot fail to benefit the coming race. It seems to me, however, that there is a good deal of duplication of Societies, and, therefore, waste of time and energy. I would venture to suggest to the various Committees the advantage of amalgamation, or, at least, of arriving at a general co-ordinated working arrangement."

I am pleased to say that such a co-ordinated working arrangement has been arrived at during the past year. The seven schools for mothers have all become affiliated to the "Bristol Infant Welfare Association and Council of Schools for Mothers," on the Central Committee of which each school is represented, and on which both the Medical Officer of Health for Bristol and the Acting Medical Inspector of Midwives have seats. The work is, therefore, now carried on upon a uniform plan, and any suggestions for alteration, improvement, or extension can be fully discussed, and their probable effect estimated, before they are adopted. The connection between the Health Department and those interested in the Infant

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\* This has since been done by an Order coming into force on April 1, 1914.



welfare of the City also becomes more intimate, and the result cannot, I think, be other than advantageous to the end in view.

As will be seen from the Table in the Report of the Schools for Mothers (page 139) 199 cases (either primiparæ, or mothers who appeared specially to need instruction) were referred to these schools up to the end of the year. Of these, a considerable proportion attended one or other school, and others were supervised at home. The names of all primiparæ residing within the area of any school are referred to that school for possible supervision, as right methods adopted with the first child will be of advantage to future children.

Other agencies have also kindly given assistance—

The Civic League had sixteen cases referred to them, where on account of poverty or other reasons some special help in the way of money or food appeared to be required for the welfare of the mother or child. In ten out of the sixteen cases help was given.

The Bristol and District Nurses Society on our request kindly supplied nurses for two lying-in women—one a case of pneumonia, the other of kidney disease.

Thanks are due to all the above agencies for their assistance.

One case was referred to the Society for Prevention of Cruelty to Children, as it appeared possible their intervention might be required.

### **The Working of the Act.**

The experience of the past twelve months has fully borne out the opinion expressed in the last Report, namely, that the Staff provided is utterly inadequate, and that comparatively little advantage will be derived by the



City from this Act until the Department is properly staffed. Of course, some good is being done, but it is a mere nothing compared with what ought to be done—a large amount of time and energy is being largely wasted because cases cannot be kept under observation, and it is disheartening for the Staff to work under present conditions, realising that the work cannot be followed up as it should be. Present conditions also throw an undue strain upon your Health Visitors, one of whom—a very keen, good, and reliable worker—was forced to resign this year because the strain was too great. Such conditions of work are not desirable, nor are they to the advantage of the City. It may be said “someone else can easily be found to do the work!”—but it must be remembered that constant changes of staff do not tend to efficiency, and as matters now stand each fresh resignation means serious diminution in the work that can be got through, and throws an extra strain for the time upon the remainder of a previously over-taxed staff.

As before stated, 970 cases which should have been seen had to be left entirely unvisited, and in the majority of those that were seen only one visit, which is of little practical value, could be paid. Mothers and children should be kept under observation, and advice be tactfully given from time to time as required. It was, however, found impossible to keep in touch with old cases, save in a very few instances, and to visit new ones, so that re-visits had practically to be abandoned.

In my opinion, the minimum of visits that should be aimed at, is:—

Weekly for the first month.

Once in the third month.

Once in the sixth month.

Once in the ninth month.

Once in twelfth month.

To carry out this work requires a very much larger staff than your present two Health Visitors, and I consider that to work the Act at all efficiently, that staff should consist of :—

Medical Head.

Two Superintendent Health Visitors.

Eight District Health Visitors.

Even with this staff there will still be ample room for the work of those agencies such as the Schools for Mothers, which already exist or may hereafter be formed.

In conclusion, I would like to point out once more that the scope for work under this Act is practically unlimited. A tentative beginning has been made, and from the experience gained it is obvious that an extension of the work cannot fail to result in much good. Visiting and advising at the home, even if carried out as it should be, is by no means the end of what may be done. Many points arise in connection with this field of work, such as, to mention only two, the establishment of a central school where lectures and demonstrations are given on the care of mothers - prospective or actual, the proper upbringing of children, and all subjects bearing on the well-being of mother and child; the provision of crèches or day nurseries for the children of working mothers.

But, to repeat what I said last year, first and foremost if any real good is to be done there must be sufficient workers. I would, therefore, ask your Committee at an early date seriously to consider the increase of staff to the number previously mentioned.

JOHN C. HEAVEN, D.P.H.,

*Acting Medical Inspector of Midwives, &c.*

No. 1.

**HOW TO REAR  
HEALTHY  
CHILDREN.**



**HAVE A TIME  
FOR  
EVERY PURPOSE.**

**KEEP CLEAN.** Give a warm bath at least once a day. Wash floors of rooms and passages regularly ; do not sweep them. Keep all food in fresh air, lightly covered.

**AVOID DIRT.** DIRT IS POISON TO BABIES. Flies and other insects carry dirt. Carpets, curtains and wallpapers harbour dirt, insects, and germs of infectious disease.

**KEEP WARM.** To allow a child to be cold is as bad as to deprive it of food. Use suitable flannel clothing ; have arms and legs covered as well as body, but clothes loose, so that infant may get exercise by free movements. **KEEP A GUARD IN FRONT OF FIRE.**

**AVOID COLD.** With proper feeding and clothing, cold air is bracing and healthy, and as wholesome by night as by day. Keep windows always open when at home, and take baby out of doors as much as possible in fine weather. Do not live in stuffy, warm rooms.

**BE REGULAR.** Teach regular habits from the first day ; it will save you a lot of trouble. Let baby sleep as much as it will, but wake regularly to feed. Let it have a little bed of its own. Baby wants all the air it can get. Sleeping with its mother is unhealthy and dangerous.

**AVOID BAD HABITS.** Don't let baby have a dummy teat to suck. Dummy teats spoil the shape of the mouth, and when dirty are poisonous.

**CONSULT DOCTOR.** If eyes are sore, to prevent blindness ; if fretful, for there must be some cause ; if baby has diarrhoea, for there is danger.

**AVOID** "Infant's Foods," Soothing Syrups and Teething Powders. They kill more than they cure.

**HOW INFANTS SHOULD BE FED.**

Infants should, whenever it is at all possible, be fed at the breast up to nine months old, but not beyond that age, except in summer. Breast milk is always much more wholesome than cow's milk, and an infant should not be weaned in June, July or August. Bread, biscuits and Infants' Food are dangerous if given before the infant is 7 months old.

Infants should be fed at definite times ; regular habits are easily established, and are beneficial to mother and infant. Until one month old, feed every 2 hours during the day ; between one and three months, every 2½ hours ; between three and nine months, every 4 hours ; after nine months, feed at 6 a.m., 10 a.m., 2 p.m., 6 p.m., and 10 p.m. One feed during the night, at 3 a.m., is sufficient even for young infants.

A quarter of an hour at the breast is enough, and if the infant stops feeding sooner, the meal should be ended and the infant kept away from the breast until next feeding time. In hot weather water may be given between meals if the child cries.

The mother should, in order to supply wholesome milk to her child, partake only of plain and wholesome food, drinking plenty of water, *but no intoxicating drinks.*

When a mother cannot suckle her infant entirely, the next best thing is to supplement breast milk by alternate meals of modified milk, prepared according to instructions to be obtained at the Public Health Offices) given in a boat bottle without a tube.

Public Health Offices,  
40, Prince Street, Bristol.

D. S. DAVIES, M.D.,  
Medical Officer of Health.

## CITY AND COUNTY OF BRISTOL.

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## INFANT FEEDING.

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### BREAST FEEDING.

**Always feed from the Breast** up to 9 months, if possible, unless advised by doctor not to do so for some special reason.

**Regularity of Feeding is essential**, whether baby is fed from the breast or artificially.

**The flow of mother's milk is increased** and improved by taking milk, gruel, oatmeal, cocoa, fat bacon, and meat when possible. **Stout and all other stimulants poison the baby at the breast.**

### BOTTLE FEEDING.

**If the child cannot be fed from the breast** for reasons above stated, **the next best food is ordinary good Milk, obtained from a clean dairy** prepared thus :—

**Sterilise the Milk immediately on delivery** by standing the bottle, jug, or gallipot up to the neck in a vessel of cold water which is brought to the boil and kept boiling for at least 15 minutes.

**Keep Milk**, after sterilising, lightly covered, in a cool place.

### FOR FOOD.

**For first 3 days :** Add two spoonfuls of boiled water to one spoonful of the sterilised milk and sweeten slightly. Give one or two tablespoonfuls of this mixture for a feed three or four times a day.

**From 3 days up to one month :** Use the following mixture in quantities, and at the intervals given in the Table below :—

MIXTURE.	{	Cow's Milk	...	...	...	3 oz. (6 tablespoonsful)
		*Plain Boiled Water	...	...	...	3 oz. (6 do. )
		Milk Sugar, 2 teaspoonsful ; (or 1 smooth teaspoonful of Demarara sugar ; or one (half-inch) lump of white cane sugar.)				
		Citrate of Soda	...	...	...	3 grains (a pinch)

**Add to two of the feeds every day** 1 teaspoonful of fresh cream or 5 drops of Cod Liver Oil.

\* If the above mixture does not seem to agree with the baby, 3 to 6 tablespoonsful of Barley Water or Lime-water may be used in place of 3 to 6 tablespoonsful of the plain boiled water.

**To make Barleywater.**—Put two teaspoonsful of washed pearl barley into one pint of cold water, bring to the boil, and then simmer for half an hour. Strain. Make fresh morning and evening.

**Limewater.**—This can be obtained quite cheaply from any good chemist.



### AFTER ONE MONTH.

Undiluted sterilised cow's milk with two grains of citrate of soda added to each ounce (two tablespoonsful) of milk can be given if it is found to agree.

If this food is used, drinks of plain boiled water must be given between meals

IF CHILD IS INCREASING IN WEIGHT THE FOOD IS AGREEING.

No Food, patent or otherwise, except the above, to be given save under the advice of a doctor.

### TABLE OF TIMES OF FEEDING AND QUANTITY AT A MEAL.

Age periods from :—	Interval between meals by day.	Number of night feeds between 10 p.m. and 6 p.m.	Quantity at one feed in ozs.
3 days to 7th day	2 hours	Two	1 to 1½ (2 to 3 tablespoonsful)
7th day to 1 month	2 hours	One at 3.30 a.m.	2 to 2½ (4 to 5 tablespoonsful)
1 month to 3 months	2½ hours	Night Feed often omitted	3 to 4½ (6 to 9 tablespoonsful)
3 to 5 months	3 to 4 hours	Night Feed generally omitted	4 to 5½ (8 to 11 tablespoonsful)
5 to 9 months	4 hours	None	5½ to 7 (11 to 14 Tablespoonsful)
9 to 12 months	Feed at 6 a.m., 10 a.m., 2 p.m., 6 p.m., and 10 p.m.		7½ to 9 (15 to 18 Tablespoonsful)

NOTE.—The changes in the strength of the food, in the intervals and the quantities at each feed, should be made gradually.

The interval between meals after six weeks may often be increased if child shows no desire for food. **Do not feed baby every time it cries.**

### TIME EACH MEAL SHOULD TAKE,

**The baby should be fed slowly** so that the meal takes some 10 to 15 minutes.

**TAKE CHILD TO A DOCTOR** at once if it wastes, cries continually, or has diarrhoea, vomiting, or constipation.

### BOTTLES.

Always use boat-shaped bottles.

The bottles must be washed out with hot water and soda and a bottle brush immediately after use, then be rinsed out thoroughly several times with cold water, and kept in a pie dish in cold water, which must cover them till wanted. There must be two bottles, and they must be used alternately.

The teat must be turned inside out and well washed and rubbed, then kept under cold water till again wanted. A new teat must be bought about every 14 days.

The bottle must be kept thoroughly clean and be scalded every day.

### "DUMMIES."

"Dummy teats" and "Comforters" do babies much harm, and must never be used.

Public Health Offices,  
40, Prince Street, Bristol.  
Issued by direction of the Health Committee

## BRISTOL SCHOOL FOR MOTHERS.

There are at present seven Schools working in various districts in Bristol. Each of these is affiliated to the "Bristol Infant Welfare Association and Council of Schools for Mothers," and is pledged to adhere to the following general principles:—

- 1. That all Schools shall employ a properly qualified medical officer for infant consultations.
- 2. That all lectures on (a) Infant Health and (b) Hygiene and Domestic Science shall be given as regards (a) by doctors or trained nurses, and as regards (b) by properly qualified teachers.

Each School endeavours to gather in mothers with infants under one year old, and expectant mothers residing in the district. The Secretary of the School also receives from the Health Office names of cases specially recommended as needing care and continuous supervision. These cases are visited from the School, and efforts are made either (a) to teach the mothers in their own homes, or (b) to induce them to attend the nearest School for Infant Consultations and Classes. The area in which "home visiting" is undertaken, usually covers about one half-mile radius from the school concerned.

In the two schools that have been established for over two years (Broad Plain and University Settlement), there has been considerable improvement in the health of the Infants, and in the responsiveness of mothers to instruction given. From the former the report is as follows:—

"The doctor reports general improvement in health of the babies; several very delicate children have become much stronger. The mothers shew an increasing willingness to carry out instructions. Only a *new* member brings a long-tubed bottle or

a dummy.' The older members have entirely given up using them. The mothers are grasping the importance of weaning at the proper time, and are spending very much less money on quack medicines."

Another School, recently established, reports:—

' Only one infant was up to the standard in weight when first brought to the school. More than half have improved considerably. The mothers appreciate the advice and help given. Ten cradles have been made from banana crates by the women themselves and purchased at the school. These mothers have expressed their pleasure at having their beds to themselves without fear of overlaying their infants. Dinners are provided for nursing mothers. Milk is also provided in some cases. One husband has given up tobacco that the money may be available for milk."

From another school the District Nurse reports:—

"General condition of infants good, and responsiveness of mothers excellent."

A series of competitions in "Infant Care" are being organized to take place in the spring. Mothers will be asked to give examples of their skill in making garments for infants, washing and dressing infants, etc. They will be examined on various points, *e.g.*: making of food for infants; treatment of common ailments.

Appended is a list of schools, with particulars of cases supervised during 1913.



TABLE giving particulars of Cases supervised during 1913.

NAME OF SCHOOL.	No. of Women on Books.	Number of babies under Supervision	Number of Women and Infants Supervised during 1913.	No. of Visits Paid to Homes.	No. of cases referred to School by Health Office.
Broad Plain, St. Philip .. ..	140	90	230	260	100; 30 subsequently attended.
Hebron Road, Bedminster .. ..	101	96	83	115	60; 9 attended; others were supervised at home.
University Settlement, Barton Hill .. ..	95	60	96	100 during last quarter; no previous record.	22
St. Lawrence, Barton Hill .. ..	43	33	59	No account kept.	12
Stoke Lane, Westbury-on-Trym .. ..	50	12	28	45	None
*Southmead Lane, Westbury .. ..	38	28	..	..	None
†Hotwells .. ..	36	32	..	150	5
TOTALS .. ..	503	351	496	670	199

\* Opened November, 1913.

† Opened January, 1914.

(Signed) F. MARION TOWNSEND.

TABLE B. Showing Population, Births, Marriages and Deaths, and Birth and Death Rates (uncorrected) in Bristol for the 25 Years, 1889—1913.

	Estimated Population	Registered Births	*Marriages in the District of the Bristol Union.	DEATHS.			ANNUAL RATES.					
				Total Deaths at all Ages.	Under 1 Year.	Over 1 and Under 5	Over 60.	In Public Institutions	Birth Rate per 1,000	Death Rate per 1,000	Infantile "Mortality to 1,000 Births	Zymotic Rate.
1889	218,848	6,694	932	4,021	976	595	1,062	660	30.5	18.3	145.8	2.2
1890	220,442	6,634	1,033	4,532	991	597	1,265	730	30.0	20.5	149.4	2.1
1891	222,049	6,725	937	4,631	972	603	1,371	815	30.3	20.8	144.5	1.7
1892	223,592	6,563	973	4,331	953	634	1,197	776	29.3	19.3	145.2	2.0
1893	225,028	6,788	955	4,241	959	411	1,283	851	30.1	18.8	141.2	1.6
1894	226,578	6,393	920	3,888	848	524	1,077	769	28.8	17.1	148.3	2.0
1895	228,139	6,622	846	4,108	935	414	1,321	837	29.0	18.0	141.1	1.1
1896	230,626	6,537	863	3,960	908	476	1,130	793	27.8	16.8	138.9	1.8
1897	232,242	6,514	884	3,988	949	434	1,195	821	28.0	17.1	145.6	1.8
1898	316,900	9,061	837	5,441	1,491	795	1,455	881	28.5	17.1	164.5	2.6
1899	320,911	9,336	2,714	5,844	1,467	567	1,781	1,049	29.0	18.2	157.1	1.8
1900	324,973	8,972	2,839	5,397	1,185	673	1,561	968	27.6	16.6	131.9	1.8
1901	329,086	8,889	2,786	5,249	1,159	558	1,379§	1,039	27.0	15.9	130.4	1.6
1902	334,632	9,368	2,827	5,905	1,225	965	1,351	1,173	27.4	17.3	130.7	2.7
1903	338,895	9,239	2,738	4,822	1,075	467	1,189	1,094	27.2	14.2	116.3	1.1
1904	343,244	9,145	2,894	5,347	1,222	545	1,386	1,162	26.6	15.5	133.7	1.6
1905	358,515	9,649	2,870	5,286	1,182	623	1,336	1,197	26.9	14.7	122.4	1.6
1906	363,223	9,372	2,793	5,299	1,196	495	1,414	1,188	25.8	14.5	127.6	1.6
1907	367,979	8,915	3,001	4,897	900	327	1,500	1,211	24.2	13.3	100.9	0.8
1908	372,785	8,752	2,866	5,230	1,102	509	1,522	1,247	23.0	13.7	125.8	1.2
1909	377,642	8,507	2,670	4,869	860	375	1,518	1,288	22.5	12.8	101.0	0.9
1910	382,550	8,258	2,670	4,523	746	293	1,474	1,283	21.5	11.8	90.3	0.6
1911	387,599	7,751	2,763	5,537	1,107	558	1,678	1,460	21.0	15.4	142.8	2.2
1912	359,400	7,681	2,933	4,894	789	425	1,663	1,282	21.3	13.6	102.7	0.9
1913	361,362	8,261	2,953	4,793	806	319	1,603	1,357	22.4	13.0	97.5	0.8

\* Previous to 1899 this includes the Registration Sub-Districts of St. Mary Redcliffe, Castle Precincts, St. Paul, St. James, and St. Augustine only.

† The Marriages for 1899 were for the first time given for an area co-extensive with the whole enlarged city.  
§ Over 65, according to the new age grouping in the L.G.B. Tables.

## Showing Number of Deaths from Zymotic Diseases in Bristol during the 58 years 1856-1913.

	COMBINED DISTRICTS.										COMBINED DISTRICTS.										POPULATION OF BOROUGH.										ESTIMATED POPULATION OF BOROUGH.					
	Population—Census, 1851—181,799.					Population—Census, 1861—201,971.					Census, 1871—182,552.										199,339. 202,950. 206,419. 209,947. 213,336. 217,185. [Census 206,503] 210,139.															
	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882									
Small-pox ...	2	5	214	1	...	1	7	60	335	49	5	2	3	1	3	45	209	9	26	70	23	...	...	...	1	...	...									
Measles ...	35	62	149	53	3	422	15	87	125	36	164	22	163	66	126	61	58	109	66	107	77	133	53	74	73	120	54									
Whooping Cough ...	82	127	107	56	102	110	145	214	31	90	188	108	114	117	97	59	128	92	43	101	47	239	66	174	95	38	196									
Diphtheria ...	...	...	...	49	18	11	43	50	24	36	18	13	31	39	20	19	16	20	14	13	11	4	5	4	6	10	8									
Scarlet Fever ...	28	132	582	257	43	19	72	925	206	54	77	39	37	179	746	173	23	39	22	457	286	45	36	92	244	153	75									
Enteric Fever ...	135	164	183	126	114	133	184	194	220	243	177	203	173	105	120	116	83	106	84	94	84	101	89	42	39	52	38									
Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	31	2	...	...	7	10									
Diarrhoea and Dysentery	245	207	275	139	120	212	120	192	184	231	179	177	280	192	216	172	158	141	159	128	209	117	171	70	184	82	104									
Cholera and Choleraic Diarrhoea	7	4	3	4	1	2	1	8	2	...	51	1	5	3	4	2	3	4	2	5	...	1	...	...	6	3	1									
Puerperal Fever*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	82									
Erysipelas ...	19	5	24	15	20	20	13	29	24	14	12	15	9	34	28	18	12	27	22	27	18	22	14	13	13	...	...									

The figures given in Italics represent the deaths occurring amongst the combined Populations of the three Registration Districts, as given in the Registrar General's Table of Deaths from various causes, viz.: Bristol (part of City), Bedminster, and Barton Regis (containing part of Bristol City).

\*Previous to 1884, Puerperal Fever was not separated in the Local returns from Puerperal Diseases generally.

TABLE C.—continued.

## Showing Number of Deaths from Zymotic Diseases in Bristol during the 58 years 1856-1913.

## ESTIMATED POPULATION OF BOROUGH.

	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
	212,779.	215,457.	212,586.	214,134.	215,694.	217,266.	218,848.	220,442.	222,049.	223,592.	225,028.	226,578.	228,139.	230,626.	232,242.	236,900.	240,911 <sup>†</sup>	244,973.	249,086.	253,632.	258,895.	264,204.	269,515.	274,823.	280,179.	285,485.	290,742.	296,050.	301,309.	306,568.	311,827.
	...	...	10	8	13	26	...	...	1+	...	2 <sup>‡</sup>	16 <sup>§</sup>	...	5	1.	...	...	...	...	1	3	1	...	...	1	...	9 <sup>¶</sup>	...	...	...	...
Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles ...	33	46	159	101	147	61	185	92	239	105	25	116	8	143	57	309	38	200	7	411	11	94	180	140	36	96	90	32	164	153	49
Whooping Cough	38	99	149	101	124	38	105	201	53	154	80	177	45	64	118	110	118	54	189	105	65	110	123	102	26	128	56	66	142	69	53
Diphtheria... (Including M. Group)	13	19	25	28	23	26	15	16	16	38	53	50	34	38	36	44	33	103	124	189	119	105	59	82	65	69	55	38	42	48	33
Scarlet Fever ...	33	37	21	89	217	45	26	40	37	47	35	16	16	59	18	14	13	39	36	66	49	36	39	27	26	10	12	12	16	12	6
Enteric Fever ...	29	40	16	29	23	28	38	33	23	18	26	21	22	20	47	26	35	44	40	59	21	26	13	21	15	10	12	9	18	7	5
Typhus Fever ...	1	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea and Dys- entery	83	132	89	119	117	68	131	96	58	99	125	65	143	106	153	348	345	165	134	110	107	206	169	213	133	154	116	76	407	66	166
Cholera and Choler- aic Diarrhoea	1	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever ...	...	18	12	8	9	17	11	12	7	25	16	11	8	8	6	11	22	20	17	17	14	16	6	14	11	7	17	14	10	15	8
Erysipelas ...	10	11	10	11	10	21	16	9	12	21	11	8	16	10	5	6	13	12	21	12	8	9	8	7	3	6	3	7	9	11	5

## ENLARGED CITY.

† This death occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.  
 ‡ Of these deaths one occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.  
 § Of these deaths five occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.  
 || This death occurred on the Hospital Ship, Avonmouth. Patient was admitted from Keynsham Workhouse outside the City.  
 ¶ Including one death which occurred at Cossham Hospital, admitted from Chipping Sodbury Rural District.

## CITY OF BRISTOL.

## Infectious Disease (Notification Act), 1889.

Notifications received during each Quarter of 1913.

1913.—Table a.

NOTIFIABLE DISEASE.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total of each disease.
Small Pox ...	...	...	...	..	...
Cholera Choleraic Diarrhœa	...	...	...	...	...
Diphtheria (including Membranous Croup)	225	151	151	235	<b>762</b>
Erysipelas ...	66	50	32	79	<b>227</b>
Scarlet Fever ...	170	148	197	1223	<b>1738</b>
Typhus Fever ...	..	...	...	...	...
Enteric Fever ...	5	9	21	29	<b>64</b>
Relapsing Fever ...	...	...	..	...	...
Continued Fever ...	...	1	1	1	<b>3</b>
Puerperal Fever ...	5	8	3	7	<b>23</b>
Cerebro-Spinal Fever	4	7	2	3	<b>16</b>
Acute Poliomyelitis	1	1	2	3	<b>7</b>
Totals in each Quarter	<b>476</b>	<b>375</b>	<b>409</b>	<b>1580</b>	<b>2840</b>



## CITY OF BRISTOL.

TABLE b. Notification and Deaths Registered by Sub-Districts during the year 1913.

	Small Pox. Cases D'ths	Diphtheria (including Membranous Group). Cases D'ths	Erysipelas. Cases D'ths	Scarlet Fever. Cases D'ths	TYPHUS. Cases D'ths	ENTERIC TYPHOID. Cases D'ths	Relap- sing.	Continued. Cases D'ths	PUER- PERAL. Cases D'ths	Total cases in each Sub- District.
Ashley ... ..	—	63	23	189	—	3	—	—	2	280
Bedminster ... ..	—	157	34	366	—	4	—	1	6	568
Bristol Central ... ..	—	73	24	125	—	16	—	—	1	239
Clifton ... ..	—	66	29	119	—	2	—	2	1	219
Knowle ... ..	—	57	10	99	—	3	—	—	2	171
St. George ... ..	—	119	34	365	—	15	—	—	5	538
St. Philip ... ..	—	85	36	295	—	7	—	—	4	427
Stapleton ... ..	—	70	16	123	—	3	—	—	2	214
Westbury-on-Trym ... ..	—	33	7	27	—	2	—	—	—	69
Public Insts. ... ..	—	28	13	20	—	4	—	—	—	65
Admitted to Public Insts. from outside of Borough	—	—	—	—	—	—	—	—	—	—
Total cases of each disease	—	11	3	10	—	5	—	—	2	27
Total deaths from each disease ... ..	—	762	227	1738	—	64	—	3	23	2817
Percentage of deaths to known cases ... ..	—	4.3	2.2	0.3	—	—	—	—	8	57
						7.8			34.7	2.0

## NOTIFICATION 1913.

## CITY OF BRISTOL.

TABLE c. Showing the number of Cases of Infectious Disease notified under the Infectious Disease Notification Act, 1889, since its adoption in 1890.

ENLARGED CITY.																										16	
	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913			
Small-pox ...	0	16	0	165	201	4	42	10	2	0	0	1	6	46	34	13	32	6	1	38	4	0	62	0			
Diphtheria (including M. Group)	56	70	106	141	128	165	258	205	217	215	506	908	1,109	1,134	1,051	1,021	839	926	924	712	556	584	643	762			
Erysipelas ...	105	135	196	230	154	195	246	203	263	337	342	392	376	244	256	303	239	244	223	199	177	309	253	227			
Scarlet Fever ...	559	888	1,442	1,245	485	562	1,352	511	382	697	1,957	2,206	2,724	2,168	1,258	1,085	1,019	886	486	692	1,216	953	580	1,738			
Typhus ...	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0			
Enteric Fever ...	122	117	135	122	90	89	110	350	113	219	285	281	319	134	172	76	120	74	103	66	85	148	79	64			
Continued or Doubtful Fever	6	8	3	6	1	1	2	0	0	2	2	2	1	0	0	0	0	0	0	0	0	0	0	3			
Puerperal Fever	11	11	34	30	18	16	21	10	18	36	46	43	39	31	27	30	37	36	22	36	39	26	33	23			
																							Cerebro Spinal Fever		16		
																							Anterior Polio-Myelitis		7		



TABLE I. Vital Statistics of Whole District during 1913 and Previous Years.  
CITY OF BRISTOL.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.						TOTAL DEATHS IN PUBLIC INSTITU- TIONS IN THE DISTRICT.	Deaths of Non- residents registered in Public Institu- tions in the District.	Deaths of Residents registered in Public Institu- tions beyond the District.	NETT DEATHS AT ALL AGES BELONG- ING TO THE DISTRICT.	
		Number.	Rate per 1000 popula- tion.	Under 1 Year of age		At all Ages.		Rate per 1000 popula- tion.						
				Number	Rate per 1000 Births regist'rd	Number	Rate per 1000 popula- tion.							
1	2	3	4	5	6	7	8	9	10	11	12	13		
1903	338,885	9,239	27.2	1,075	116.3	4,822	14.2	1,094	118		4,704	13.8		
1904	343,204	9,135	26.6	1,222	133.7	5,347	15.5	1,162	109		5,238	15.2		
1905	358,515	9,649	26.9	1,182	122.4	5,286	14.7	1,197	97	4	5,193	14.4		
1906	363,223	9,372	25.8	1,196	127.6	5,299	14.5	1,188	101	2	5,200	14.3		
1907	367,979	8,915	24.2	900	100.9	4,837	13.3	1,211	113	1	4,785	13.0		
1908	372,785	8,753	23.0	1,102	125.8	5,230	13.7	1,247	131	10	5,109	13.4		
1909	377,642	8,507	22.5	860	101.0	4,869	12.8	1,288	130	6	4,745	12.5		
1910	382,550	8,258	21.5	746	90.3	4,523	11.8	1,283	146	8	4,385	11.4		
1911	557,509	7,751	21.0	1,107	142.8	5,537	15.4	1,460	160	53	5,430	15.1		
1912	359,400	7,681	21.3	789	102.7	4,894	13.6	1,282	132	58	4,820	13.4		
Average for Years 1903-1912	362,168	8,726	24.0	1,017	116.3	5,070	13.9	1,241	123	*	4,960	13.6		
1913	361,362	8,261	22.43	806	97.56	4,793	13.0	1,357	150	63	4,706	12.7		

\* The information required is not available.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received, on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums. A list of the Institutions in respect of the deaths in which corrections have been made should be given on the back of this Table.

Area of District in acres, 17,460. Total population at all ages ... 357,059—At Census of 1911.

I. Institutions within the District receiving sick and infirm persons from outside the District.	II. Institutions within the District receiving sick and infirm persons from the District.	III. Other Institutions, the deaths in which have been distributed among the several localities in the District.
<p>ROYAL INFIRMARY. GENERAL HOSPITAL. CHILDREN'S HOSPITAL.</p> <p>COSSHAM HOSPITAL. CONVALESCENT HOME. EYE HOSPITAL. EYE DISPENSARY. HOMŒOPATHIC HOSPITAL. ORTHOPÆDIC HOSPITAL.</p>	<p>ROYAL INFIRMARY. GENERAL HOSPITAL. CHILDREN'S HOSPITAL.</p> <p>COSSHAM HOSPITAL. CONVALESCENT HOME. EYE HOSPITAL. EYE DISPENSARY. HOMŒOPATHIC HOSPITAL. ORTHOPÆDIC HOSPITAL.</p>	<p>CITY HOSPITALS. NOVERS HILL, HAM GREEN, HOSPITAL SHIP, AVONMOUTH. CLIFT HOUSE (closed July, 1906.)</p> <p>BRISTOL PRIVATE HOSPITAL FOR WOMEN &amp; CHILDREN LYING-IN HOSPITAL AND TEMPORARY HOME. VOLUNTARY LOCK HOSPITAL.</p>

Municipal Institutions (within the City)—

SOUTHMEAD WORKHOUSE.  
EASTVILLE WORKHOUSE  
STAPLETON WORKHOUSE.  
LUNATIC ASYLUM.



## CITY OF BRISTOL.

148

Table II.

Vital Statistics of Separate Localities (Registration Sub-Districts) in 1913 and previous years.

NAMES OF LOCALITIES	1.—ASHLEY.				2.—BEDMINSTER.				3.—BRISTOL CENTRAL.				4.—CLIFTON.				5.—KNOWLE.				6.—ST. GEORGE.				7.—ST. PHILIP.				8.—STAPLETON.				9.—WESTBURY-ON-TRYM.			
	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births Registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births Registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births Registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births Registered.	Deaths at all Ages.	Deaths under 1 Year.
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.
1908 ...	42,039	948	462	92	63,142	2,041	797	229	43,726	1,065	618	139	44,435	660	494	56	14,058	451	153	39	59,738	1,822	747	214	48,986	1,614	711	203	22,771	553	260	64				
1904 ...	42,842	894	411	75	64,505	2,003	850	243	42,793	1,027	706	157	44,446	688	556	68	14,679	522	200	65	61,670	1,779	853	273	48,810	1,545	814	238	23,459	575	241	62				
1905 ...	44,144	921	445	86	65,877	2,072	826	234	41,864	1,042	771	162	41,462	702	558	69	15,302	548	199	50	63,612	1,792	759	216	48,639	1,586	735	226	24,151	556	222	68	10,464	347	135	41
1906 ...	45,023	906	468	72	67,261	1,981	865	256	40,936	1,024	665	178	44,483	696	541	75	15,928	530	210	57	65,567	1,703	706	196	48,472	1,551	803	238	24,847	555	251	57	10,706	334	141	34
1907 ...	45,909	908	469	68	68,652	1,937	775	195	40,011	920	621	109	44,504	620	507	67	16,558	512	214	44	67,533	1,551	623	144	48,310	1,494	648	156	25,547	569	275	56	10,950	300	99	22
1908 ...	46,802	837	501	81	70,055	1,765	787	217	39,087	957	628	156	44,539	634	530	58	17,191	504	197	49	69,511	1,635	720	198	48,152	1,413	757	229	26,252	589	216	57	11,196	324	107	28
1909 ...	47,702	803	485	59	71,469	1,736	709	175	38,165	915	621	129	44,573	670	542	65	17,828	487	172	26	71,501	1,541	635	154	47,999	1,448	621	153	26,961	524	238	47	11,444	272	118	24
1910 ...	50,361	799	412	46	69,389	1,623	619	143	37,110	937	509	99	46,647	686	518	68	18,430	466	181	31	71,591	1,512	605	145	49,653	1,384	567	139	27,676	506	215	29	11,693	244	101	17
1911 ..	47,378	711	524	71	61,176	1,579	832	226	38,485	867	603	141	42,466	640	582	76	20,150	447	185	46	58,478	1,421	793	216	50,215	1,259	793	207	26,149	492	272	63	12,562	260	117	18
1912 ...	48,091	763	506	56	61,720	1,581	744	163	37,582	796	562	95	41,971	650	504	64	21,098	426	187	28	59,100	1,400	663	141	50,103	1,234	652	157	26,780	461	231	39	12,955	277	109	17
Averages of Years 1903 to 1912	46,029	848	468	70	66,324	1,831	780	208	39,975	905	630	136	43,952	664	533	66	17,122	489	189	43	64,830	1,615	710	189	48,933	1,452	710	194	25,459	538	242	54				
1913 ...	48,718	750	472	51	62,186	16,29	690	166	36,747	935	525	108	41,503	701	520	66	21,952	444	204	29	59,640	1,524	618	133	49,973	1,391	681	173	27,336	536	229	40	13,307	280	106	16

\* The Registration Sub-districts were so interchanged at the extension of the City in 1897, by the consequent re-arrangement of boundaries in 1898, that this Table cannot be given for previous years.





TABLE III.

## CITY OF BRISTOL.

149

Cases of Infectious Disease notified during the Year ending 3rd January, 1914.

NOTIFIABLE DISEASES		CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.													NO. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.															
		At all Ages	At Ages—Years.							Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury-on-Trym	Public Insts.	Not belonging to Borough	Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury-on-Trym	Public Insts	Not belonging to Borough						
			Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards																												
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Diphtheria (including Membranous Croup)	762	13	195	443	59	45	6	1	63	157	73	66	57	119	85	70	33	28	11	27	98	60	55	40	68	66	58	23	32	16							
Erysipelas	227	7	10	17	28	65	72	28	23	34	24	29	10	34	36	16	7	13	1	4	7	1	3	1	1	3	1	2	13	1							
Scarlet Fever	1738	7	260	1223	190	55	3	...	189	366	125	119	99	365	295	123	27	20	10	83	171	88	55	26	126	151	43	18	19	10							
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
Enteric Fever	64	...	3	19	18	19	5	...	3	4	16	2	3	15	7	3	2	4	5	2	2	15	2	2	14	7	2	2	4	5							
Relapsing Fever...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
Continued Fever...	3	...	...	...	2	1	...	...	1	...	2	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...						
Puerperal Fever...	23	...	...	...	9	12	2	...	2	6	1	1	2	5	4	2	...	...	...	2	3	...	1	...	2	1	...	...	...	...	...						
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
Cerebro-spinal Meningitis	16	1	2	7	3	2	1	...	2	3	3	1	1	...	4	2	...	...	...	2	2	3	...	1	...	3	1	1	...	...	...						
Poliomyelitis	7	...	1	5	1	...	...	...	4	1	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...						
Measles (Port)	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...						
Totals	2841	28	471	1714	310	200	89	29	286	572	242	220	173	539	431	216	69	65	28	120	285	167	117	70	211	231	105	46	68	32							
Phthisis	Under Tuberculosis Regulations, 1908.	15	...	2	3	2	6	2	...	...	3	4	1	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
	Under Tuberculosis Regulations, 1911.	54	...	4	15	11	16	8	...	4	12	7	4	5	10	8	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...						
	Under General Order.	58	...	1	6	22	24	2	3	10	13	5	4	3	8	5	6	3	1	...	...	...	...	...	...	...	...	...	...	...	...						
Public Health (Tuberculosis Regulations, 1912).	Pulmonary Tuberculosis	823	4	18	157	198	314	119	13	93	163	105	85	33	118	143	33	10	28	12	...	...	...	...	...	...	...	...	...	...	...						
	Tuberculosis Meningitis	48	6	17	16	7	1	...	1	1	12	6	2	2	11	10	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...						
	Tuberculosis of Peritoneum & Intestines	62	5	19	18	7	10	2	1	6	11	10	2	3	10	9	4	1	5	1	...	...	...	...	...	...	...	...	...	...	...						
	Tuberculosis of Spinal Column	40	...	4	24	5	6	1	...	5	2	2	3	4	6	6	2	1	9	...	...	...	...	...	...	...	...	...	...	...	...						
	Tuberculosis of Joints	71	...	8	36	18	5	4	...	7	11	8	7	5	8	8	6	1	10	...	...	...	...	...	...	...	...	...	...	...	...						
Totals	Tuberculosis of other Organs	157	4	14	50	44	32	10	3	27	36	14	14	8	24	15	11	4	2	2	...	...	...	...	...	...	...	...	...	...	...						
Totals		1201	19	80	301	279	368	136	18	139	235	145	113	55	177	191	58	17	56	15																	
Notification of Births		Births	...	...	...	6612	...	...	542	1362	790	519	202	1310	1261	397	228	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
		Stillbirths	...	...	...	306	...	...	37	62	47	21	7	61	45	19	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
		Totals—M., 3520, F., 3397—6917	...	...	...	...	...	...	579	1424	837	540	209	1371	1306	416	235	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					

Order came into operation  
1st February, 1913.

Order came into operation  
1st February, 1913.





# CITY OF BRISTOL.

TABLE IV.

Causes of, and Ages at, Death during the Year ending 3rd January, 1914.

150

CAUSE OF DEATH.		DEATHS IN WHOLE DISTRICT AT SURJOINED AGES.									DEATHS IN LOCALITIES (AT ALL AGES).												DEATHS IN PUBLIC INSTITUTIONS.
		All Ages	Under 1	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	Ashley	Bedminster	Bristol Central	Clifton	Knowle	St. George	St. Philip	Stapleton.	Westbury-on-Trym	Municipal Institutions	Not belonging to Borough		
1	ENTERIC FEVER ...	5	...	...	...	2	1	1	1	...	...	1	2	...	...	1	...	...	...	1	...	...	5
2	SMALL-POX ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	MEASLES ...	49	10	21	14	4	...	...	...	...	2	3	8	7	1	11	14	...	...	3	...	...	6
4	SCARLET FEVER ...	6	...	...	1	2	1	...	2	...	1	...	...	...	...	2	2	1	...	...	...	1	...
5	WHOOPIING COUGH ...	53	22	15	14	2	...	...	...	...	...	10	3	2	2	11	20	2	1	2	...	...	...
6	DIPHTHERIA & CROUP ...	33	2	6	10	14	...	...	1	...	2	4	...	2	2	6	8	5	1	...	3	26	
7	Influenza ...	57	...	...	...	2	...	3	18	34	10	3	4	12	2	2	1	1	4	18	...	19	
8	Erysipelas ...	5	1	...	...	...	...	1	1	2	...	...	1	...	...	...	...	2	...	2	...	4	
9	Phthisis (Pulmonary Tuberculosis) ...	399	3	6	8	24	95	162	85	16	27	65	31	33	21	45	70	24	6	73	4	94	
10	Tuberculous Meningitis ...	45	7	4	7	17	8	1	...	1	2	11	5	...	2	11	8	2	...	2	2	22	
11	Other Tuberculous Diseases ...	52	6	5	7	7	10	10	5	2	5	12	5	1	5	3	6	4	1	7	3	17	
12	Cancer, malignant disease ...	396	...	...	2	1	4	33	192	164	52	54	39	58	23	38	39	20	7	42	24	109	
13	Rheumatic Fever ...	23	...	...	...	5	4	3	6	5	3	6	2	2	2	4	2	1	...	1	...	2	
14	Meningitis ...	48	12	5	4	14	4	5	4	...	2	10	7	2	5	7	4	6	2	...	3	28	
15	Organic Heart Disease ...	466	...	1	...	9	18	51	165	222	72	53	41	64	19	46	49	26	16	70	10	114	
16	Bronchitis ...	359	37	8	7	1	2	15	81	208	50	49	47	35	13	48	71	18	5	22	1	30	
17	Pneumonia (all forms) ...	267	67	52	18	8	6	34	44	38	20	38	30	23	8	46	46	12	7	34	3	76	
18	Other Diseases of Respiratory Organs ...	69	4	4	2	2	4	9	26	18	4	9	5	9	3	9	5	2	2	17	4	27	
19	DIARRHŒA AND ENTERITIS ...	166	149	17	...	...	...	...	...	...	8	36	21	7	5	31	44	8	1	5	...	43	
20	Appendicitis and Typhlitis ...	27	...	...	2	8	7	6	3	1	1	2	3	4	...	4	...	3	2	...	8	21	
21	Cirrhosis of Liver ...	34	...	...	...	...	...	7	17	10	6	5	4	3	...	2	7	1	3	3	...	8	
21a	Alcoholism ...	19	...	...	...	...	...	7	11	1	1	2	3	3	2	1	2	...	...	5	...	7	
22	Nephritis & Bright's Disease ...	165	2	...	4	4	7	25	69	54	11	27	22	16	7	32	21	6	5	15	3	49	
23	Puerperal Fever ...	8	...	...	...	...	2	6	...	...	...	1	...	...	1	2	1	1	...	...	2	4	
24	Other Accidents and Diseases of Pregnancy & Parturition ...	36	6	...	...	...	9	20	...	1	2	3	4	3	1	11	9	1	1	...	1	11	
25	Congenital Debility and Malformation, including Premature Birth ...	331	330	1	...	...	...	...	...	...	31	57	47	27	12	56	65	20	9	3	4	64	
26	Violent Deaths ...	178	11	5	18	20	14	26	39	45	13	29	25	14	6	18	27	8	6	12	20	80	
27	Suicide ...	30	...	...	...	...	1	12	15	2	...	6	4	3	2	2	6	3	...	...	4	7	
28	Other Defined Diseases ...	1454	136	30	19	33	39	133	288	776	146	192	161	188	60	169	152	54	25	256	51	471	
29	Diseases ill-defined or unknown ...	13	1	...	2	...	1	...	6	3	1	2	1	2	...	...	2	...	...	5	...	7	
All Causes ...		4793	806	180	139	179	237	570	1079	1603	472	690	525	520	204	618	681	229	106	598	150	1357	
Sub-Entries included in above figures.	14a. Cerebro-spinal Meningitis ...	14	1	2	2	5	2	1	1	...	1	3	2	1	...	1	3	3	...	...	...	10	
	Venereal diseases ...	25	18	...	...	...	1	4	2	...	1	5	3	3	1	4	4	...	...	2	2	20	
	Beri-Beri ...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	

## CITY RATES.

No. of Births.		DEATH RATE.				Principal Epidemic Diseases (Zymotic) Rate.	Infantile Rate
M	F.	Birth Rate	Year 1913	Last Year	10 Years' Average		
4152	4109	22.43	13.01	13.6	13.9	0.84	97.56
8261							

Average age at Death of Persons aged 65 and upwards .. 75 years 4 months.  
 Births of Illegitimate Children .. (Males 159 Females 180)—339  
 Total Deaths .. (under 6) ( .. 61 .. 33)—84  
 Inquests .. .. .. 449  
 Uncertified Deaths .. .. .. 0

District Death Rates

District Birth Rates

Deaths of Infants under 1

Number of Births

Infantile Rate

9.70	10.88	14.01	12.29	9.11	10.16	13.37	8.21	7.81	...	...	...
15.10	25.70	24.98	16.57	19.84	25.07	27.32	19.24	20.64	...	...	...
52	166	108	66	2.9	134	173	38	16	12	12	...
M. 393	M. 836	M. 481	M. 348	M. 214	M. 734	M. 699	M. 269	M. 149	M. 29	...	...
F. 357	F. 793	F. 454	F. 353	F. 230	F. 790	F. 692	F. 267	F. 131	F. 42	...	...
750	1629	935	701	444	1524	1391	536	280	71	...	...
69.33	101.90	115.50	94.15	65.31	87.92	124.37	70.89	57.14	...	...	...



## INFANTILE MORTALITY during the Year ending 3rd January, 1914.

## Deaths from Stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total Under One Month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths Under One Year
Small-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox .. ..	..	..	..	..	1	1	..	1	..	..	1	..	2	2	1	1	10
Measles .. ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever .. ..	..	..	..	..	..	3	..	4	..	3	4	1	2	2	1	2	22
Whooping Cough .. ..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	2
Diphtheria and Croup .. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Erysipelas .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Tuberculous Meningitis .. ..	..	..	..	..	..	..	..	1	..	1	1	..	1	2	1	..	7
Abdominal Tuberculosis .. ..	..	..	..	..	2	..	..	..	1	1	..	1	2	..	2	..	9
Other Tuberculous Diseases .. ..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis .. ..	1	..	..	..	1	..	..	3	..	..	3	2	1	2	..	..	12
Convulsions .. ..	6	10	7	1	24	10	9	4	..	2	1	1	1	..	2	..	54
Laryngitis .. ..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Bronchitis .. ..	2	1	1	3	7	7	5	1	5	1	1	1	4	2	1	2	37
Pneumonia (all forms) .. ..	..	2	1	3	6	8	3	5	5	6	2	7	7	8	8	2	67
Diarrhoea .. ..	..	..	2	3	5	11	7	6	8	4	4	8	5	3	2	2	65
Enteritis .. ..	1	4	6	4	15	15	8	10	4	5	6	5	8	4	1	3	84
Gastritis .. ..	..	1	..	..	1	3	1	1	1	..	..	1	..	..	..	..	6
Syphilis .. ..	..	2	1	..	3	3	5	..	3	..	1	1	..	1	..	..	17
Rickets .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Starvation, overlying .. ..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Injury at Birth .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Atelectasis .. ..	3	..	..	..	3	1	..	..	..	..	..	..	..	..	..	..	4
Congenital Malformations .. ..	11	5	2	1	19	6	2	3	..	2	..	..	..	..	1	..	33
Premature Birth .. ..	122	12	10	7	151	11	2	..	1	..	..	..	..	..	..	..	165
Atrophy, Debility and Marasmus .. ..	36	14	14	9	73	23	14	8	6	3	6	..	2	1	3	..	138
Other Causes .. ..	21	1	4	3	29	6	11	4	5	3	2	2	2	1	2	4	71
Totals .. ..	203	57	48	34	342	107	67	51	39	31	31	30	38	28	25	17	806

Net Births during the Year { Legitimate 3993  
 { Illegitimate 159

Net Deaths during the Year { Legitimate Infants 452  
 { Illegitimate Infants 41

Uncertified Deaths 0





TABLE VI.

CITY AND COUNTY OF BRISTOL.

## Public Health (Tuberculosis) Regulations, 1912.

## SUMMARY OF NOTIFICATIONS RECEIVED from 1st February, 1913, to 3rd January, 1914.

Age Periods. {	No. of Notifications on Form A.												No. of Notifications on Form B.				No. of Notifications on Form C			
	PRIMARY NOTIFICATIONS.												Total Notifications i.e., including cases previously notified by other doctors.	PRIMARY NOTIFICATIONS.			Total Notifications i.e., including cases previously notified by other doctors.	Poor-law Institutions.	Sanatoria.	
														Under 5	5 to 10	10 to 15				Total
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards	Total								
Pulmonary, M. ...	1	11	19	37	31	54	88	66	52	20	5	384	453	...	8	3	11	12	51	86
Pulmonary, F. ...	3	6	34	44	51	62	92	68	30	17	8	415	482	1	7	5	13	13	19	110
Non-Pulmonary, M...	5	37	40	37	21	13	17	10	5	1	3	189	208	1	2	1	4	6	3	1
Non-Pulmonary, F...	10	24	29	30	25	22	19	8	6	5	2	180	192	...	5	...	5	5	...	...

## **PART II.**

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### **REPORT OF THE TUBERCULOSIS OFFICER For the Year 1913.**

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The Bristol Dispensary for the Prevention of Consumption was taken over by the Corporation at the end of January, 1914, but for convenience in preparing statistics the figures have been taken from December 30th, 1912, to January 3rd, 1914. The activities of the Dispensary have been carried out without any change, but the operation of the National Insurance Act has very considerably increased the amount of work.

For the year 1913 696 new patients attended the Dispensary—this appears to compare unfavourably with the year 1912, when 885 patients attended the Dispensary. The explanation of this, however, is that through the year 1913 the routine work had increased to such an extent that it was almost impossible to look for “contacts” systematically.

The subsequent visits of patients who attended the Dispensary in 1913 was 8,293, this comparing favourably with the year 1912, when 6,568 attendances were recorded.

The Home Visitation was carried out as well as possible, but the amount of work necessitated the appointment of an Assistant Nurse who came on duty at the end of July.

The clerical work increased to such an extent that a whole-time clerk was appointed at the end of July in addition to a half-time clerk.



**Proportion of Patients found to have Tuberculosis.**

The following table shows the proportion of cases of Tuberculosis found amongst the 696 new patients who attend the Dispensary from the City and elsewhere.

**TABLE 1.**

INSURED.											
	Ashley	Bedminster	Bristol Central	Clifton.	Knowle	St. George	St. Philip & St. Jacob.	Stapleton	Westbury-on-Trym.	Outside City	TOTAL
Pulmonary Tuberculosis { ...	29	47	35	32	7	42	60	13	6	1	272
Stigmata and other forms of Tuberculosis { ...	1	4	3	3	1	5	2	—	—	2	21
Non-Tuberculous { ...	8	5	5	8	2	4	2	2	—	3	39
TOTAL ..	38	56	43	43	10	51	64	15	6	6	332
NON-INSURED.											
Pulmonary Tuberculosis { ...	17	42	37	19	19	26	36	4	1	2	203
Stigmata and other forms of Tuberculosis { ...	6	32	27	18	3	17	19	3	2	1	128
Non-Tuberculous { ...	4	5	6	4	4	4	4	1	—	1	33
TOTAL ...	27	79	70	41	26	47	59	8	3	4	364

In the foregoing table, and throughout this report, the term "Pulmonary Tuberculosis" signifies tuberculosis of the lungs—formerly termed phthisis or consumption. "Tuberculosis" stands for that disease in glands, joints, bones, and other organs of the body.

### Age and Sex Constitution.

The sex and age of the new patients is shown as follows:—

TABLE 2.

Age ...	1-5	5-10	10-15	15-25	25-35	35-45	45-55	55-65	65-	All ages
Males ...	23	58	54	76	63	44	18	5	—	341
Females ...	18	44	64	92	80	46	8	2	1	355
Both sexes	41	102	118	168	143	90	26	7	1	696

The above table indicates the large number of children brought to the Dispensary for examination.

Out of 435 over 15 years of age, 206, or 47.3 per cent, were males, and 52.6 per cent were females. In the year 1912 this disproportion was rather greater. The increased proportion of men examined is no doubt due to the evening session each week, now increased to two evening sessions, so that those at work may attend the Dispensary without losing time.

# RESULTS OF EXAMINATION.

The diagnosis as to the presence or absence of Tuberculosis shown in Table 3.

TABLE 3a.

Sex, Age-Constitution and Diagnosis of the 696 New Patients during 1913.

Age ...	1-5			5-10			10-15			15-25			25-35			35-45			45-55			55-65			65--x			All ages		
SEX	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes
Pulmonary Tuberculosis	2	1	3	22	18	40	22	29	51	61	71	132	59	72	131	41	44	85	17	8	25	5	2	7	—	1	1	229	246	475
Stigmata and other forms of Tuberculosis	19	12	31	31	18	49	20	25	45	6	10	16	3	3	6	—	2	2	—	—	—	—	—	—	—	—	—	79	70	149
Non-Tuberculous	2	5	7	5	8	13	12	10	22	9	11	20	1	5	6	3	—	3	1	—	1	—	—	—	—	—	—	33	39	72
TOTALS	23	18	41	58	44	102	54	64	118	76	92	168	63	80	143	44	46	90	18	8	26	5	2	7	—	1	1	341	355	696

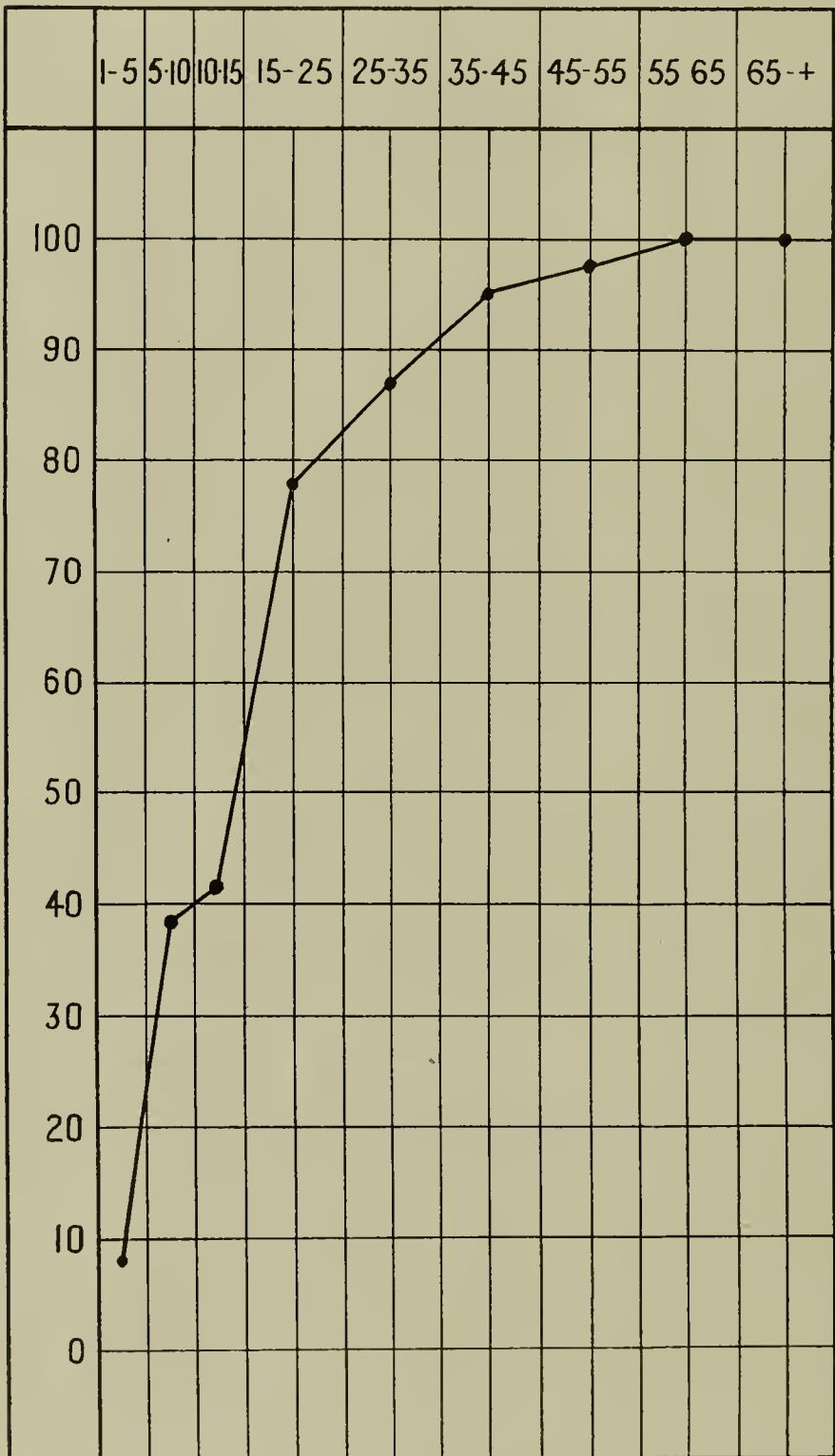
The percentage of the total number of Patients examined in each age-group, and found to have Pulmonary Tuberculosis, was therefore as follows :—

TABLE 3b.

PERCENTAGE IN EACH AGE-GROUP FOUND TO HAVE PULMONARY TUBERCULOSIS.																															
Age ...		1-5			5-10			10-15			15-25			25-35			35-45			45-55			55-65			65-x			All Ages		
SEX ...	...	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes
Total number examined	{	23	18	41	58	44	102	54	64	118	76	92	168	63	80	143	44	46	90	18	8	26	5	2	7	—	1	1	341	355	696
Pulmonary Tuberculosis	{	2	1	3	22	18	40	22	29	51	61	71	132	59	72	131	41	44	85	17	8	25	5	2	7	—	1	1	229	246	475
Percentage ...	...	8.7	5.5	7.3	37.9	40.9	39.2	40.8	45.3	43.2	80.3	77.2	78.6	93.7	90.0	91.6	95.5	95.7	94.4	94.4	100	96.2	100	100	100	—	100	100	67.2	69.3	68.2
Stigmata and other forms of Tuberculosis	{	19	12	31	31	18	49	20	25	45	6	10	16	3	3	6	—	2	2	—	—	—	—	—	—	—	—	—	79	70	149
Percentage ...	...	82.6	66.6	75.6	53.4	40.9	48.1	37.1	39.1	38.1	7.9	10.8	9.5	4.8	4.7	4.2	—	4.3	2.2	—	—	—	—	—	—	—	—	—	23.1	19.7	21.4

# DIAGRAM I.

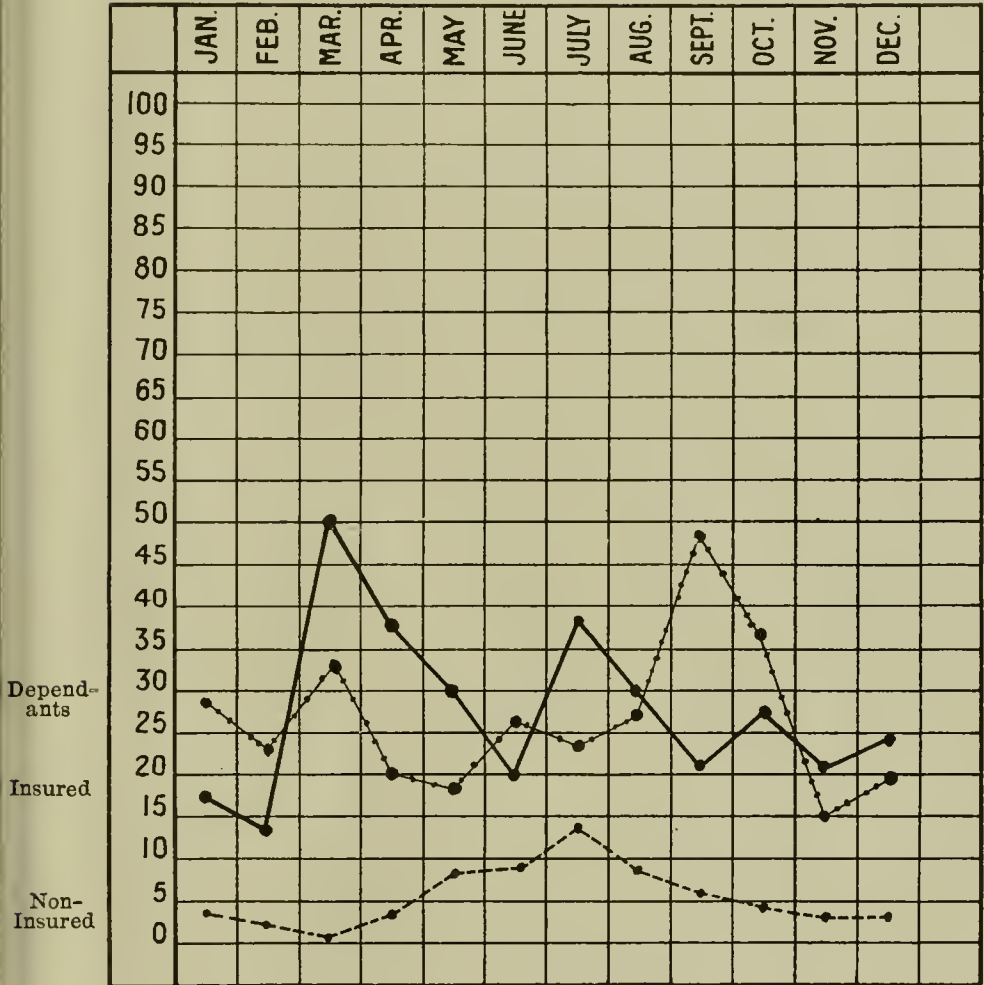
Percentage of each Age-group found to have PULMONARY TUBERCULOSIS.  
(Or Age incidence of the diseased among a Dispensary population).



It will be noted that there is a rapid increase in the percentage of cases found to have Pulmonary Tuberculosis as they pass from infancy into children.

Number of new patients who attended the Dispensary during 1913.

DIAGRAM II.



The number of Insured, Non-insured and Dependents of March have been kept separately, and the resulting diagram is of interest. The sudden rise in the number of insured during March is explained by the fact that in March the Insurance Committee, who then had an accumulation of applications, sent to the Dispensary every case recommended for Sanatorium benefit.

During September the gentlemen doing *locum* in the Dispensary was at the same time seeing the bulk of the out-patients in a local institution, and sent along every suspicious case,



TABLE 5.

Recommended by	Pulmonary Tuberculosis		Stigmata and other forms of Tuberculosis.		Non-Tuberculous		Total
	Insured	Non-Insured	Insured	Non-Insured	Insured	Non-Insured	
Bristol Children's Hospital	...	8	...	2	...	...	10
Bristol Civic League	...	6	...	2	...	...	8
Bristol Dispensary	4	...	...	2	...	...	6
Bristol Education Committee	...	3	...	...	...	...	3
Bristol General Hospital	3	18	...	...	...	...	21
Bristol Insurance Committee	142	...	...	...	2	...	144
Bristol Medical Missionary Society	...	10	...	...	...	...	10
Bristol Royal Infirmary	2	2	...	...	...	...	4
Clifton Dispensary	5	...	...	2	...	...	7
Ham Green Sanatorium	...	3	...	3	...	...	6
Medical Officer of Health	18	77	...	9	...	5	109
Private Practitioners	64	32	4	6	7	3	116
Somerset County Council	4	...	...	...	...	...	4
Contact Cases ...	30	44	17	102	30	25	248
Total ...	272	203	21	128	39	33	696



If Table 5 be compared with the corresponding table for 1912 a considerable difference will be noticed, which is very easily explained. It will be observed that the total number of new patients sent to the Dispensary was 448, as against 426 in 1912, while the number of "Contacts" examined was considerably less.

The number of patients sent by the M.O.H. had increased from 81 to 109, while the number sent by the private practitioners had decreased from 163 to 116. This is doubtless due to the fact that now private practitioners write "Dispensary" across their compulsory notification forms, and the patients are sent on by the M.O.H.

This is the usual procedure with Non-insured persons and Dependants of insured persons. When an Insured person is found to have pulmonary tuberculosis his panel doctor applies to the Insurance Committee for "Sanatorium Benefit," and the patient is sent to the Dispensary by this Committee.

Of the 696 new patients examined 475 were found to be definitely tuberculous, while 72 were considered to be absolutely free from tuberculosis of any sort, and were not treated at the Dispensary.

### **Sleeping Accommodation.**

Badly ventilated, over-crowded bedrooms, full of pre-respired air, and the fact that such rooms, and even frequently the same bed, are shared with a consumptive patient by other members of his family, are probably responsible for more tuberculosis than any other one single factor. Table 6 shows that only 193 out of 475 patients suffering from definite signs of pulmonary tuberculosis occupied separate rooms at night time, The others were sleeping in rooms shared by one or more persons, and of these, only 84 slept in separate beds, the remainder actually sleeping in the same beds as one or more members of the family.

TABLE 6.

277 patients were sleeping alone in bed as follows :—

Total number of persons sleeping in same room (including the patient).

One ( <i>i.e.</i> the patient) ...	193
Two (the patient and 1 other)...	43
Three (the patient and 2 others)	32
Four (the patient and 3 others)	7
Five (the patient and 4 others)	2
Total ...	<u>277</u>

162 patients were sleeping with one other person in same bed as follows :—

Total number of persons sleeping in same room (including the patient).

Two (the patient and 1 other) ...	117
Three (the patient and 2 others)	30
Four (the patient and 3 others)	13
Five (the patient and 4 others)	2
Total ...	<u>162</u>

26 patients were sleeping with two other persons in same bed as follows :—

Total number of persons sleeping in same room (including the patient).

Three (the patient and 2 others)	19
Four (the patient and 3 others)	5
Five (the patient and 4 others)	2
Total ...	<u>26</u>

### Housing Accommodation.

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Table 7 shows the housing accommodation of the patients who attended the Dispensary during 1913.

TABLE 7.

The Housing accommodation of 458 patients suffering from Pulmonary Tuberculosis was as follows :—

**A.**—51 were living in Homes of one room only as follows :—

Alone	..	..	...	45
With 1 other person...			...	5
„ 2 „ persons			...	2
„ 3 „ „			...	2
Total				<u>54</u>

**B.**—39 were living in Homes of two rooms as follows :—

With 1 other person			...	18
„ 2 „ persons			...	13
„ 3 „ „			...	6
„ 4 „ „			...	3
„ 5 „ „			...	2
Total				<u>42</u>

TABLE 7.—*continued.*

C.—35 were living in Homes of three rooms as follows :—

With 1 other person	...	6
„ 2 „ persons	...	8
„ 3 „ „	...	12
„ 4 „ „	...	6
„ 5 „ „	...	2
„ 6 „ „	...	2
„ 7 „ „	...	3
„ 9 „ „	...	1
Total	...	<u>40</u>

D.—65 were living in Homes of four rooms as follows :—

With 1 other person	...	3
„ 2 „ persons	...	10
„ 3 „ „	...	8
„ 4 „ „	...	19
„ 5 „ „	...	14
„ 6 „ „	..	4
„ 7 „ „	...	5
„ 8 „ „	...	3
„ 9 „ „	...	3
Total	...	<u>69</u>

E.—135 were living in Homes of five rooms as follows :—

With 1 other person	...	6
„ 2 „ persons	...	15
„ 3 „ „	...	26
„ 4 „ „	...	26
„ 5 „ „	...	23
„ 6 „ „	...	13
„ 7 „ „	...	14
„ 8 „ „	...	10
„ 9 „ „	...	3
„ 10 „ „	...	1
Total	...	<u>137</u>

TABLE 7—*continued*.

**F.**—75 were living in Homes of six rooms, as follows:—

With 1 other person	...	4
„ 2 other persons	...	3
„ 3 „ „	...	9
„ 4 „ „	...	21
„ 5 „ „	...	15
„ 6 „ „	...	12
„ 7 „ „	...	7
„ 8 „ „	...	3
„ 10 „ „	...	1
Total	...	<u>75</u>

**G.**—25 were living in Homes of seven rooms, as follows:—

With 1 other person	...	2
„ 2 „ persons	...	3
„ 3 „ „	...	4
„ 4 „ „	...	3
„ 5 „ „	...	3
„ 6 „ „	...	3
„ 7 „ „	...	1
„ 8 „ „	...	4
„ 9 „ „	...	1
„ 11 „ „	...	1
Total	...	<u>25</u>

**H.**—22 were living in Homes of eight rooms, as follows:—

With 1 other person	...	1
„ 3 „ persons	...	2
„ 4 „ „	...	6
„ 5 „ „	...	3
„ 6 „ „	...	4
„ 7 „ „	...	2
„ 8 „ „	...	1
„ 10 „ „	...	3
Total	..	<u>22</u>

**I.**—4 were living in Homes of nine rooms, as follows :—

With 4 other persons	...	2
„ 5 „ „	...	1
„ 11 „ „	...	1
		<hr/>
Total	...	<u>4</u>

**J.**—5 were living in Homes of ten rooms, as follows :—

With 3 other persons	...	1
„ 4 „ „	...	2
„ 6 „ „	...	1
„ 9 „ „	...	1
		<hr/>
Total	...	<u>5</u>

**K.**—2 were living in Homes of twelve rooms, as follows :—

With 4 other persons	...	1
„ 7 „ „	...	1
		<hr/>
Total	..	<u>2</u>

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## OCCUPATIONS.

TABLE 8.

Males.

Occupation				Work- ing	Not Work- ing	Total
Baker	...	...	..	I	I	I
Bath Attendant	...	...	...	I	I	I
Boot Makers	...	...	I	8	9	
Birdcage Maker	...	...	...	I	I	
Box Makers	...	...	...	3	3	
Butcher	...	...	...	I	I	
Cabinet Makers	...	...	2	3	5	
Carpenters	...	...	4	I	5	
Carters	...	...	6	I	7	
Chaffeur	...	...	...	I	I	
Clerks...	...	...	6	5	II	
Collier	...	...	...	I	I	
Compositors	...	...	...	2	2	
Crane Driver	...	...	...	I	I	
Drayman	...	...	...	I	I	
Dental Mechanic	...	...	...	I	I	
Carried forward	...	...	19	32	51	



TABLE 8—*continued.*

Occupation		Work- ing	Not Work- ing	Total
Brought forward	...	19	32	51
Engineers' Fitters...	...	3	3	6
Factory Workers:—				
Chocolate	...	3	...	3
Tobacco ...	...	3	3	6
Other ...	...	3	1	4
Fishmonger	...	1	...	1
Gardener Dealer	...	...	1	1
Glaziers	...	1	3	4
Horse Collar Maker	...	...	1	1
Infants	...	...	...	5
Insurance Agents, &c.	...	1	3	4
Iron Workers	...	...	2	2
Knife Finisher	...	...	1	1
Labourers	...	7	15	22
Labourers (Dock)...	...	...	3	3
Loco. Firemen	...	...	2	2
Machine Grinders	..	1	1	2
Machine Operator	...	...	1	1
Manservant	...	..	1	1
Carried forward	...	42	73	120

TABLE 8—*continued.*

Occupation			Work- ing	Not Work- ing	Total
Brought forward			42	73	120
Masons	...	...	2	...	2
Milkman	...	...	1	..	1
Music Teachers	...	...	1	1	2
Naval Seaman	...	...	...	1	1
Night Watchman	...	...	...	1	1
No Occupation	...	...	...	6	6
Outfitter	...	...	...	1	1
Packers	...	...	4	1	5
Painters	...	...	...	2	2
Photographer	...	..	...	1	1
Pianoforte Maker	..	...	...	1	1
Plumbers	...	...	...	2	2
Porters, &c.	...	...	3	5	8
Pottery Worker	...	...	1	..	1
Printers	...	...	3	6	9
Schoolboys	...	..	...	...	102
Sheet-Metal Worker	...	..	...	1	1
Ship's Cook	...	..	...	1	1
Do. Firemen	...	...	...	2	2
Carried forward			57	105	269

TABLE 8—*continued.*

Occupation		Work- ing	Not Work- ing	Total
Brought forward	..	57	105	269
Ship's Stewards	... ..	2	...	2
Shop Assistants	... ..	4	4	8
Shunter	... ..	...	1	1
Silversmith	... ..	1	...	1
Smiths	... ..	...	2	2
Street Performer	... ..	1	...	1
Tailors	... ..	...	4	4
Tanner	... ..	...	1	1
Telegraphist	... ..	...	1	1
Tin Solderer	... ..	...	1	1
Typist	... ..	1	...	1
Van Boys	... ..	2	...	2
Warehousemen	... ..	5	4	9
Watchmakers	... ..	1	1	2
Window Cleaner	... ..	1	...	1
Wood Machinists...	... ..	2	...	2
Total	..	77	124	308

TABLE 8—continued.

## Females.

Occupation.			Working	Not Working	Total.
Assistant Caretaker	...	...	1	...	1
Bed Maker	...	...	1	...	1
Blouse Maker	...	...	...	1	1
Book Folder	...	...	1	...	1
Book Pager	...	...	1	...	1
Box Makers	...	...	1	3	4
Cashier	...	...	...	1	1
Charwomen	...	...	...	4	4
Cook ...	...	...	...	1	1
Corset Makers	...	...	10	14	24
Domestic Servants	...	...	1	3	4
Dressmakers	...	...	2	2	4
Factory Workers :—					
Chocolate	...	...	2	1	3
Cloth	...	...	...	1	1
Firelighter	...	...	...	1	1
Paint	...	...	...	1	1
Stationery	...	...	6	6	12
Sweet	...	...	...	1	1
Carried forward			26	40	66

TABLE 8—*continued.*

Occupation.			Work- ing	Not Work- ing	Total
Brought forward	...	...	26	40	66
Tobacco	...	..	1	4	4
Other	...	...	1	1	2
Housework Helpers		..	1	1	2
Housewives	...	..	...	...	74
Infants	...	...	...	...	6
Laundry Workers		...	1	1	2
Machinists	...	...	...	3	3
Mantle Maker	...	...	...	1	1
Milliner	...	...	...	1	1
Monthly Nurse	...	...	...	1	1
No Occupation	...	...	...	...	1
Nursemaid	...	...	...	1	1
Nursery Governess		...	1	...	1
Parlourmaids	...	...	2	...	2
Rag Sorter	...	...	...	1	1
Salvation Army Officer		...	...	1	1
Schoolgirls	...	...	...	...	119
Seed Packer	...	...	...	1	1
Shop Assistants	...	...	1	1	2
Carried forward	...	...	34	58	291

TABLE 8—*continued.*

Occupation			Work- ing	Not Work- ing	Total	
Brought forward			...	34	58	291
Shopkeeper	..	...	1	...	1	
Stick Chopper	...	...	1	...	1	
Street Performer	..	...	1	...	1	
Tailoresses	...	..	3	15	18	
Waitresses	...	...	2	2	4	
Total			...	42	75	316

### Results of Sanatorium Treatment.

The after history of Sanatorium patients is of very considerable interest and importance. It is quite obvious that if the after results are poor and if the great majority of these persons subsequently relapse, then sanatorium treatment is of doubtful value. Before any definite conclusion can be arrived at a very large number of cases must be kept under observation for a number of years, and this is one of the functions of a Tuberculosis Dispensary. A start has been made by keeping very careful records of all ex-sanatorium patients who come under observation, although the number (93) is very much too small to make any deductions from as yet.

It is obvious, however, that to get any satisfactory result from sanatorium treatment several very different factors play a part: (1.) Proper selection of cases.

(2.) Correct treatment while in Sanatorium. (3.) Suitable occupation on returning home. (4.) Adequate after care.

In selecting cases for sanatorium treatment the extent of the actual lesion in the chest is of slight importance compared with the systemic disturbance manifested. Many cases which at one time were classified as "advanced" do exceedingly well at Sanatorium. These typically are cases with a history of illness extending off and on for a number of years, on examination quite a large area of lung tissue is involved, but with slow pulse and little or no rise of evening temperature.

On the other hand one unfortunately rather frequently comes across such a case as this—no history of any illness till a sudden hæmoptysis a few days previously. On examination very little is to be found in the chest except perhaps a few crepitations at one apex, but the pulse is very rapid, the temperature rises to 101 or more in the evening, the night sweats are very severe, and there is great myotatic irritability frequently myoidena. The condition is one of profound toxaemia, and the patient is quite unsuitable for an ordinary Sanatorium. Such patients are best treated in a separate institution or Hospital from which they may eventually be drafted to a Sanatorium if their condition improves and they have sufficient natural and acquired resisting power to throw off the effects of the first knock down blow of the infection.

While the patient is in Sanatorium it is of paramount importance that he or she should not be allowed to grow fat. The gain in weight which follows the simple fattening process is not a sign of increased well-being and such weight is very rapidly lost on return to home life. The aim in all cases should be to increase the amount of muscle, and to make such muscle as hard as the condition of the patient will allow. This is best



attained by a system of carefully graduated activity. At times it is found rather difficult to keep patients working sufficiently hard as their health improves, but the brilliant results which are so frequently attained more than justify the expense of the increased staff necessary.

It is, of course, obviously foolish to expect that a patient on return from a Sanatorium, even with the disease completely arrested, will keep well for any length of time if he returns to work in unhealthy or unsuitable surroundings. The experience of the Dispensary staff during 1913 has been that the vast majority of the employers in Bristol are both willing and anxious to do all they possibly can for any tuberculous employee by endeavouring to find suitable (and if possible outdoor) employment for them. This is very encouraging, not only to patients and their dependants but also to the Medical Profession of the City; still, one feels that more should be attempted. An efficient "After Care Committee," adequately provided with funds, is urgently needed to carry on and simplify this work.

After discharge from Sanatorium all patients are requested to report at one or other of the Tuberculosis Dispensaries at intervals, so that they may be sent away with as little delay as possible on the first sign of a relapse.

During the year 1913, 93 persons were examined who had previously been treated in Sanatorium with the following results :—

One patient had been in Sanatorium eleven years ago. A very advanced case complicated by lupus, was attended from the Dispensary until she died early in 1913.

One patient had been in Sanatorium nine years ago. Attends the Dispensary regularly for

tuberculin, and keeps moderately well, although a semi-invalid.

Two patients had been in Sanatorium eight years ago, and one of them again five years ago, he attended the Dispensary regularly for tuberculin for more than twelve months, and kept remarkably well until the end of 1913 when he suddenly relapsed, had very severe hæmorrhage, and died. The other still attends the Dispensary regularly for tuberculin and remains in full work.

One had been in Sanatorium six years ago. Is still attending the Dispensary, but is quite unfit for work.

Two had been in Sanatorium four years ago. One attends the Dispensary regularly, and is an advanced case and quite unfit for work. One is able to do some work and attends the Dispensary regularly at intervals for observation.

Two had been in Sanatorium three years previously, both were again sent to Sanatorium in 1913, and returned with disease apparently arrested.

Six had been in Sanatorium two years ago. Two though moderately advanced cases are now in full work and have been greatly benefited by tuberculin. One kept fairly well for some time after returning from Sanatorium, but relapsed, and had to be sent back again towards the end of 1913. He returned somewhat improved, but not fit for work. One kept fairly well until the end of 1913 when he was sent back to Sanatorium. One, a very advanced case, with very active disease was treated with tuberculin for some time with little or no effect, has been sent back to Sanatorium as an experiment.

Six had been in Sanatorium twelve months ago. One, an old soldier, had malaria as well as tubercle, was treated with tuberculin with very little success and subsequently died of malaria. Two returned from Sanatorium very much improved, but subsequently relapsed, and were sent back to Sanatorium. One returned from Sanatorium greatly improved, and derived a great deal of benefit from tuberculin, but eventually developed tubercular laryngitis and when last seen was very ill indeed. One was a very advanced case, but the general condition on returning from Sanatorium was very good indeed. He has been treated continuously with tuberculin and keeps well. One relapsed slightly was sent back to Sanatorium and returned very well indeed.

73 patients returned from Sanatorium during 1913.

34 returned from Sanatorium with the disease apparently arrested and are now all in full work. One developed T.B. synovitis in the right wrist and is still under treatment.

23 returned from Sanatorium very much improved but with still some signs of active disease. They are however able to work full time, and attend the Dispensary regularly.

Nine returned considerably improved, but unfit for work, and three of these have got much worse.

Six have got markedly worse and are now being treated at home.

It is of course obvious that there are many ex-Sanatorium patients in Bristol who are perfectly well and consequently never see a doctor. The Dispensary will naturally be more apt to come across failures than successes.

## TUBERCULIN.

Tuberculin has had a strange history. It was first introduced in 1890 by Robert Koch, the discoverer of the Tubercle Bacillus. The results obtained by its use were, to say the least, disastrous, and it gradually fell into disuse. In 1903, however, as a result of the researches of Sir Almroth Wright and his co-workers into the mechanism of immunisation by bacterial products in general, interest in Tuberculin revived. About the same time a school of Tuberculin Therapy grew up in Germany, and here and there were found physicians who had used tuberculin continuously and carefully since its introduction.

There has been an enormous amount of controversy over tuberculin. Some go the length of saying that tuberculin is never of any use, and is positively harmful. These, one suspects, are persons who have injected tuberculin without carefully considering, first the suitability of the individual patient, and second, the size of the dose. In such hands, of course, a potent drug like tuberculin is not only harmful, but even dangerous. At the other end of the scale are those who believe or pretend to believe that tuberculin and tuberculin alone will cure all tuberculosis. Neither attitude is justified, but it has been proved repeatedly that tuberculin properly administered to carefully selected cases is usually materially beneficial.

During the year 1913 tuberculin has been administered to Dispensary patients whenever thought advisable, and the results have been most encouraging.

## SUMMARY.

7 had only one dose.

2 went to Sanatorium immediately.

1 was recommended for Sanatorium, refused to go, and ceased to attend the Dispensary.

2 had a slight reaction, and refused treatment.

2 were very advanced cases, and had rather severe reactions. Tuberculin was not continued.

## 7 Surgical Cases.

1 had tubercle of the left kidney, bladder and prostate. After 20 inoculations he appeared to be perfectly well. His weight had increased from 8st. 9lbs to 10st. 5½lbs., and he is now in full work.

1 had T.B. glands in the neck, and after 50 injections had improved a great deal. He is now in full work.

1 had T.B. tubes and ovaries, and tuberculous peritonitis. Was very sensitive to tuberculin, but improved in weight a little with very small doses. Subsequently developed a tuberculous hip.

1 had abdominal tubercle, and showed great improvement after 30 inoculations. He is now in full work.

1 had Pott's disease, greatly improved after 7 inoculations, and stopped attending.

1 had T.B. epididymitis. Though very sensitive he improved after 12 injections, but subsequently relapsed.

1 very active case with T.B. periostitis of ribs and T.B. arthritis, remained in statu quo.

## 37 Advanced Cases.

14 showed very marked improvement—37·8 per cent.  
(2 are now in full work.)

2 in Sanatorium.

4 got steadily worse.

1 very advanced case, improved considerably and kept very well for practically twelve months, but after over exertion had a severe hæmorrhage and died.

16 remained in statu quo.

## 27 Chronic Cases.

11 improved a great deal, and are in full work—40·7 per cent.

12 remained in statu quo. One of these, however, is well enough to remain at work.

3 are complicated with chronic bronchitis and asthma.

1 has improved considerably, but is hardly fit for work yet.

## 52 Early Cases.

34 improved a great deal—65·3 per cent. All are at work.

7 remained in statu quo.

5 improved a little. 2 of these are at work.

3 ceased to attend after 3 doses each.

2 ceased to attend after 2 doses each.

1 got worse.

Exclude the seven surgical cases, and the seven cases who had only one dose, and taking as a criterion of improvement the ability to work, 41·3 per cent. were materially benefitted.

C. J. CAMPBELL FAILL, M.R.C.P., (Edin.)

*Tuberculosis Officer.*



## THE CITY HOSPITALS.

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**Ham Green Hospital.**

**Novers Hill Hospital.**

**Ham Green Sanatorium.**

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These Institutions have, during the year 1913, been fully employed.

At Novers Hill Hospital the imperfect nature of the means for effectually dealing with disease, especially the absence of sufficient observation wards, the lack of a proper bathing and discharge block, and the insufficient accommodation for the staff, noted in last year's report, still call for attention. The dilapidated cottages which once afforded some relief in these respects, and which have not been replaced, though now useless, should be removed, and the proposed extensions proceeded with. Until this is done, the City has no Small-pox accommodation it can contemplate with any pride, or even with a feeling of full security.

In the absence of Small-pox, Novers Hill has, during 1913, acted as a relief Hospital for Scarlet Fever,

Further remarks as to the general insufficiency of Isolation Hospital accommodation in the City appear under the heading of "Scarlet Fever," (p. 56).



### Ham Green Sanatorium.

On the 21st and 22nd October, 1912, the first eight cases of Phthisis were admitted; and, by the end of 1912, 20 cases had obtained admission—10 Health Committee Patients and 10 Insurance Committee patients).

The daily number of patients remained at the maximum of 21 until early in May, 1913, when the numbers gradually rose until a maximum of 38 was reached in the first week of July.

This number was maintained until the middle of September, when owing to the influx of Scarlet Fever, Phthisis admissions were stopped, and eventually the number of patients was reduced, by November 12th, to 20, which has been the accommodation ever since.

It might be noted that just prior to, and immediately after, Christmas, 1913, some difficulty was experienced in filling even 20 beds at Ham Green, owing to lack of applications.

The patients were nursed, up to September, 1913, in two of the Fever Blocks, thus limiting the fever accommodation; on the occurrence of the autumn Scarlet Fever epidemic, these blocks were re-devoted to fever nursing, and one Isolation Block was retained for Sanatorium purposes, while temporary shed and chalet accommodation was also provided, giving a total accommodation for twenty beds.

D. S. DAVIES, M.D.,

General Medical Superintendent, City Hospitals.

## ISOLATION HOSPITAL ACCOMMODATION IN BRISTOL SINCE 1896.

	Guardians.	St. Philip.	St. (George.	Clift House	Novers Hill	Ham Green	Population of City	Total Beds	Proportion of Beds per 1,000 Population.
1886	120	28					214,000	148	0.7
1894	60	48		30	50		226,000	188	0.8
1898	60	Closed	6	Closed	50		316,000	116	0.3
1900	Closed	24	6	22	50	76	324,000	156	0.5
1901		24	Closed	22	35	76	329,000	157	0.4
1902		Closed		22	35	76	334,000	133	0.3
1905				22	35	134	358,000	191	0.5
1906				Closed	35	134	363,000	169	0.4
1913					35	134	361,000	169	0.4

CITY OF BRISTOL.  
HAM GREEN HOSPITAL.

---

Report of the Resident Medical Officer  
for the Year 1913.

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TO THE MEMBERS OF THE COMMITTEE OF MANAGEMENT  
GENTLEMEN,

I have the honour to submit to you the Fifteenth Annual Report of the work of this Institution for the year ending December 31st, 1913.

There were 121 patients in Hospital at the beginning of the year. 1096 were admitted (including 89 cases of Tuberculosis): 1025 cases were discharged, 8 died, leaving 184 in Hospital at the end of the year; 1217 patients were therefore under treatment during the year, a number considerably in excess of any previous year.

Notwithstanding the high number of admissions the average daily number of patients was only 118 for all diseases.

**ACUTE INFECTIOUS CASES.**

The average stay in Hospital for these cases was 36.5 days, a reduction of 20 days compared with former years. This reduction has been effected

- (1) By the reduction of the **minimum** period of isolation of Scarlet Fever cases to one calendar month.

- (2) By the marked reduction of cross infection and septic complications by the methods of aseptic nursing and fresh air treatment for cases in the acute stage of disease. This reduction has apparently been associated with no disadvantage to any of the patients, and is equivalent to the addition of 50 more beds to the Institution, which would have cost about £15,000 to build, besides about £2,000 per annum for upkeep.

### **Fresh Air Treatment.**

The average Death Rate for all cases (exclusive of Tuberculosis) has been the record low figure of 0·8 per cent. The average Death Rate for the previous fourteen years has been 4 per cent. for all cases.

Part of this very low rate is accounted for by mildness of the attacks of Scarlet Fever; but I think a part, at least, is attributable to the institution of the fullest possible circulation of air in the acute wards, by keeping the windows wide open at all times of the year. The temperature of the wards falls to a low level in the winter, but the patients are provided with additional bed clothes and hot-water bottles, if necessary. The patients are transferred to warm convalescent wards when able to get up. Full fresh air treatment seems as beneficial in the treatment of acute febrile illnesses as it is in Tuberculosis.

### **SCARLET FEVER.**

500 cases were admitted, and 408 discharged. **No deaths** occurred from this disease. No death has occurred in the Hospital from this disease for eighteen months out of 720 consecutive cases. Four per cent. suffered from Scarlatina anginosa. Removal to Hospital was delayed to the second week of disease in 32 per cent. of its cases, owing to the rush of cases in the autumn.

The average stay in Hospital for these was 34·9 days.

In spite of this short period of detention the return case rate maintained a low level, viz., 6 cases out of 421 discharged (including 13 mixed infections) a rate of 1·4 per cent.

The following table shows that the policy of shortening the quarantine period and ignoring desquamation during the last three years, has been followed by a slight average **reduction** on the previous low rates.

Year.		Average Stay in Hospital.		Return Cases, Rate per cent.
1904	...	45·8	days	... 2·4
1905	...	51·7	„	... 2·0
1906	...	57·7	„	... 1·6
1907	...	56·2	„	... 1·0
1908	...	58·4	„	... 2·3
1909	...	60·1	„	... 2·7
1910	...	53·0	„	... 1·7
1911	...	48·0	„	... 1·4
1912	...	43·1	„	... 0·8
1913	...	34·9	„	... 1·4

Bacteriological examination of all cases admitted revealed the presence of Diphtheria bacilli in 34 cases, or 8·9 per cent.

The segregation of these cases has, during the past two years, been successful in preventing the occurrence of any cases of post scarlatinal diphtheria.

### DIPHTHERIA.

467 cases of Diphtheria were admitted during the year: 460 were discharged and 7 died, two of which deaths were within eight hours of admission. Of the cases admitted, 65 were carrier cases, and 402 showed clinical evidence of the disease.

The fatality rate in all cases discharged was 1·4 per cent., compared with a previous average for fourteen years of 6.3 per cent.

On clinical cases only, the fatality rate was 1·7 per cent., a record low mortality.

#### Site of Disease.

Throat	..	...	329
Throat and Nose...		...	27
Throat and Larynx		...	34
Nose	...	...	57
Larynx	...	...	5
Ear	...	...	12
Nose and Ear	...	...	2
Throat and Ear	...	...	1
			<hr/>
			467

Of those with Laryngeal involvement, viz. 46, 16 or 38 per cent. required operative measures to prevent suffocation.

Intubated	...	...	4
Intubated and Tracheotomized			1
Tracheotomized	...	...	11
			<hr/>
			16

**No Deaths** occurred among these patients. 83 cases, or 17 per cent. received some antitoxin before admission.

Post Diphtheritic Paralysis occurred in 43 patients, or 0·6 per cent. of all clinical cases, as follows:—

Soft Palate	...	...	26
Eye Muscles	...	...	12
Pharyngeal Muscles		...	2
Limb Muscles	...	...	2
Diaphragm	..	...	1
			<hr/>
			43

The average stay in Hospital was 37·2 days for those who recovered.



### ENTERIC FEVER.

Twenty cases of this disease were admitted, and 16 discharged. **No Deaths** occurred. Two suffered from relapses, one from Broncho-pneumonia, and one from Thrombosis of veins of leg.

### MIXED INFECTIONS.

Twenty-five patients were found to be suffering from, or incubating, a second infection on admission.

Scarlet Fever and Clinical Diphtheria	...	1
„ „ Whooping Cough	...	2
„ „ Chicken Pox	...	2
„ „ Enteric Fever	...	1
Diphtheria „ Chicken Pox	...	11
„ „ Scarlet Fever	...	4
„ „ Mumps	...	1
„ „ Whooping Cough	...	1
„ „ Rubella	...	2

Two patients with Diphtheria contracted Scarlet Fever in the Convalescent Wards, and two contracted Chicken Pox.

The method of Aseptic Nursing has been *absolutely* successful during the past year in preventing the occurrence of cross infection in the *Acute* Wards, notwithstanding the large number of invasions of secondary diseases. The cases who contracted Scarlet Fever in the Convalescent Diphtheria Wards apparently caught it from a Scarlet Fever carrier in the ward. Owing to our ignorance of the organism of Scarlet Fever, the possibility of this accident cannot be entirely eliminated.

The Acute Wards successfully dealt with 13 invasions of Chicken Pox.

Owing to the rapid admission of cases the patients had to be moved quickly on from the Acute Wards to Convalescent Wards, where, of course, it is not possible to keep the patients out of contact with each other.



One of the patients who had been in hospital 10 days developed Chicken Pox in the *Convalescent* Ward, and was followed by several secondary cases, two of which are entered in this year. As a rule endeavour is made to keep all patients in bed in the Acute Wards for a fortnight, by which time any secondary disease will have developed, and by Aseptic means its spread is prevented.

The diagnosis was considered to be in error in the following cases:—

NOTIFIED AS SCARLET FEVER.—Proved to be—

Rubella	...	...	2
Drug Rash	...	...	1
Pneumococcal Meningitis			1

NOTIFIED AS DIPHTHERIA.—Proved to be—

Lobar Pneumonia	...	...	2
Secondary Syphilis	...	...	2
Spasmodic Croup	...	...	1
Simple Laryngitis	...	...	1
Stomatitis	...	...	2
Follicular Tonsillitis	...	...	5
Miliary Tuberculosis	...	...	1 (died)

NOTIFIED AS RUBELLA.—Proved to be—

Measles	...	...	1
---------	-----	-----	---

### VACCINATION STATISTICS.

Unvaccinated	...	...	211—22·6 per cent.
One Mark	...	...	261—28 „
Two „	...	...	188—20·1 „
Three „	...	...	180—19·3 „
Four „	...	...	81—8·7 „
Five „	...	...	2—·02 „
Six „	...	...	2—·02 „
Re-vaccinated	...	...	3—·03 „
Query	...	...	3—·03 „

**STAFF ILLNESS.**

Three Nurses and one Wardmaid suffered from Scarlet Fever, and one Nurse and one Wardmaid from Diphtheria. This accounted for 247 days' loss of service. Minor illnesses accounted for 261 days off duty. Total 508. Average staff 68. Average days loss of duty, 7.4 per head.

**GENERAL.**

21,344 articles were disinfected in the steam sterilizer.

169,323 articles were washed in the Hospital Laundry.

6,230 eggs were obtained from the Hospital fowls.

21 Pigs were fattened on the premises.

In conclusion, I beg to acknowledge Miss Garden's invaluable co-operation in administering the Hospital, and the good work done by the nursing, working, and domestic staff.

B. A. PETERS, M.D., D.P.H.,

*Resident Medical Officer.*

# **HAM GREEN HOSPITAL.**

**TABLE I.**  
**Admissions and Discharges during 1913.**

DISEASE.	Remaining in Hospital end of 1912.	Admissions as Notified.	DISCHARGED.		Remaining in Hospital End of 1913.
			Recovered.	Died.	
Scarlet Fever ... ..	31	500	408	—	116
Diphtheria ... ..	66	486	460	7	46
Enteric Fever ... ..	4	20	16	—	7
Mixed Infections ... ..	—	—	29	1	—
Other Diseases ... ..	—	1	18	—	—
<b>Totals</b> ... ..	<b>101</b>	<b>1007</b>	<b>931</b>	<b>8</b>	<b>169</b>
<b>HAM GREEN SANATORIUM.</b>					
Pulmonary Tuberculosis ... ..	20	89	94	—	15



# HAM GREEN HOSPITAL.

TABLE III.

Stage of the Disease when Patients were admitted to Hospital.

Disease.	DAYS OF FIRST WEEK.							First Week.	Second Week and after.	Carrier Cases.
	1	2	3	4	5	6	7			
Scarlet Fever ...	1	43	72	85	65	53	26	345	63	...
Recovered	2	55	93	88	50	38	14	340	29	91
Died ...	0	0	1	2	2	0	2	...	...	...
Mortality } per cent. }	0	0	1.06	2.2	3.8	0	12.5	...	..	...

# HAM GREEN HOSPITAL.

TABLE IV.  
Complications observed in Patients Discharged during 1913.

Scarlet Fever	Otorrhœa	Primary Rhinorrhœa	Cervical Adenitis	Albuminuria	Nephritis	Arthritis	Endocarditis	Mastoiditis	Relapse
Total Cases	408	22	13	5	3	6	2	1	5
Percentage	...	5.3	3.1	1.2	0.7	1.4	0.4	0.2	1.2

TABLE V.  
Monthly Admissions as Notified and Daily Average number in Hospital.

1913	Scarlet Fever	Diphtheria	Enteric Fever	Other Diseases	Pulmonary Tuberculosis	Monthly Total Admissions	Average Daily No. in Hospital in each Month
January	19	52	..	...	...	71	87
February	33	50	...	...	7	90	115
March	16	43	1	...	9	69	113
April	13	51	...	...	4	68	71
May	12	24	...	..	5	41	106
June	17	36	2	...	24	79	90
July	19	43	4	...	7	73	98
August	15	31	2	...	6	54	148
September	51	28	5	1 Rubella	13	98	75
October	101	43	...	...	5	149	153
November	89	39	...	...	4	132	181
December	115	46	6	...	5	172	185
Total	500	486	20	1	89	1096	118

## HAM GREEN HOSPITAL.

Statistics for each Year since Opening of Hospital.

TABLE VI.

## ADMISSIONS CLASSIFIED ACCORDING TO DISEASE.

YEAR.	Scarlet Fever	Diphtheria	Enteric Fever	Mixed Infections.	Other Diseases and Quarantine.		TOTAL.
1899	194	4	21	...	Pulmonary Tuberculosis	7	226
From July 24th							
1900	571	70	38	...	...	...	679
1901	452	27	44	...	...	4	527
1902	536	128	42	21	...	...	727
1903	370	323	11	11	...	...	715
1904	374	317	26	2	...	...	719
1905	476	310	...	19	...	12	817
1906	439	342	8	9	...	19	817
1907	370	445	...	43	...	31	889
1908	219	513	13	11	...	21	777
1909	414	359	8	23	...	49	853
1910	709	308	15	...	...	4	1,036
1911	478	338	70	11	...	...	897
1912	345	439	36	25	20	...	865
1913	500	486	20	...	89	1	1,096
Totals	6,447	4,409	352	175	109	148	11,640

## DISCHARGES AND DEATHS.

YEAR.	Scarlet Fever.		Diphtheria.		Enteric Fever.		Mixed infections and other Diseases.	
	Dis-charges	Deaths	Dis-charges	Deaths	Dis-charges	Deaths.	Dis-charges	Deaths
1899	127	5	3	...	3	...	5	...
1900	485	15	50	12	33	1	...	...
1901	452	10	34	1	39	5	...	...
1902	540	11	67	14	33	4	18	2
1903	377	4	308	17	17	2	12	...
1904	326	7	310	20	24	2	2	...
1905	423	16	271	13	...	...	25	5
1906	433	12	314	20	3	1	28	2
1907	405	15	387	34	4	...	58	1
1908	197	4	516	28	11	...	41	3
1909	420	9	359	14	6	...	63	5
1910	572	10	285	18	13	...	74	1
1911	492	5	292	20	52	3	94	9
1912	333	5	358	28	32	1	61	2
1913	408	...	460	7	16	...	47	1
Totals	5,993	128	4,014	246	286	19	528	31
Average Fatality per cent.	2.09		5.7		6.2		5.5	

1913 Pulmonary Tuberculosis ... Discharges. 91 Deaths. Nil.



## HAM GREEN SANATORIUM.

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### Report of Resident Medical Officer for the Year ending December 31st, 1913.

Twenty patients were undergoing treatment at the beginning of the year; 89 were admitted and 94 discharged, leaving 15 in the Sanatorium at the end of the year. Up to the present 109 patients have been under treatment.

#### AGE AND SEX OF PATIENTS DISCHARGED.—

			Male.	Female.
5-10	...	...	2	1
10-15	...	...	6	12
15-20	...	...	—	11
20-25	...	...	—	17
25-30	..	...	1	17
30-35	...	...	—	8
35-40	...	...	—	12
40-45	...	...	—	5
Over 45	...	...	—	2
			—	—
			9	85
			—	—

PATIENTS IN STAGE I. (42).—In forty of these the disease was apparently arrested, and the patients restored to full working capacity, and in two the condition was greatly improved. The average gain in weight for this group was 12 lbs.

STAGE II. (23).—In fifteen the disease was arrested, and in eight much improved, the average gain in weight being 14 lbs.

STAGE III. (25).—The disease was apparently arrested in eleven cases, improved in seven, and not improved in the other seven. Average gain in weight, 13½ lbs.

In addition to the patients whose treatment was completed, two left prematurely owing to home troubles, one was discharged owing to reduction of accommodation, and one was a surgical case.

State of Patient	Arrested.	Improved.	Not Improved	Left Prematurely.	TOTAL
Stage I ...	40	2	—	—	42
Stage II ..	15	8	—	2	25
Stage III...	11	7	7	1	26
Surgical Case	1	—	—	—	1
Total ...	67	17	7	3	94

The improvement was most rapid and marked among the younger patients and those of school age.

The average stay in Hospital for all cases was 96½ days. This could be profitably extended in many of the cases—especially in those with more advanced disease—to effect permanent benefit.

#### OCCUPATIONS OF THOSE DISCHARGED.

Housewife ...	29	Nurse Maid ...	1
School ...	19	Stationery ...	1
Domestic ...	8	Waitress ...	1
Box-maker ...	5	Labeller ...	1
Tailoress ...	4	Ticket Writer ...	1
Cigarette Packer ...	3	Book-keeper ...	1
Tobacco Strippers ...	3	Typist ...	1
Dressmaker ...	2	Music Teacher ...	1
Blouse Maker ...	1	Carpenter ...	1
Machinist ...	2	Pupil Telegraphist ...	1
Nurse ...	1	Shop Assistant ...	1
Wardmaid ...	2	Laundress ...	1
Mother's Help ...	2	Chocolate Packer ...	1

The system of carefully graduated labour was applied to all patients, so that when discharged the great majority are in a fit physical condition to resume their employment. Tuberculin injections were administered in suitable cases, apparently with benefit, and in no case with apparent injury.

B. A. PETERS, M.D., D.P.H.,  
Resident Medical Officer.

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## NOYERS HILL HOSPITAL.

### Medical Attendant's Report for the Year ending December 31st, 1913.

#### SCARLET FEVER.

Patients remaining from 1912	...	...	28	} 295
„ admitted	...	...	267	
„ discharged	...	...	246	} 295
„ died	...	...	1	
„ remaining December 31st, 1913	...	...	48	

The majority of cases were of a very mild form, so much so as often to make a positive diagnosis of Scarlet Fever difficult in a great number of cases, as frequently on admission the rash had disappeared, there remained nothing else than to watch for desquamations, and even then, the typical desquamation of Scarlet Fever was very doubtful.

Although the epidemic has been of such a mild type, that is as far as regards rash, temperature, &c., in the critical stages, the complications and sequelæ appear to be about the same, and with but one exception—viz., a fatal case of Nephritis—there is nothing of any special importance to report.

Culture swabs were taken from all throats, ears, and noses presenting suspicious symptoms or signs out of the ordinary course of Scarlet Fever, when it was found after Bacteriological examination—as stated further on—that no less than 44 out of 67 nasal discharges were infected with Diphtheria in a more or less severe form.

From this fact, I am inclined to think that a large number of these cases were actually suffering from Diphtheria and not Scarlet Fever, and that an initial erythematous rash was probably mistaken for the true rash of Scarlet Fever.

Another thing I take note of is the rather large number of cases of Albuminuria or Nephritis, and also the large percentage of cases suffering from Otorrhœa or Rhinorrhœa, pointing, as I suggest, to Diphtheria rather than Scarlet Fever. The development of heart trouble (7 cases) after the acute symptoms have passed off, is also suggestive.

The following complications and sequelæ were met with during the year :—

Albuminuria or Nephritis	...	...	18
Axillary Abscess	...	...	1
Glandular Abscesses	...	...	6
Heart Trouble	...	...	7
Otorrhœa	...	...	22
Rheumatism	...	...	7
Rhinitis and Rhinorrhœa	...	...	67
Secondary Scarlet Fever Rash	...	...	2
Severe and repeated Epistaxis	...	...	1
Uræmia (death)	...	...	1

The following complicated with Diphtheria :—

Aural	...	...	10	A total of	56
Nasal	...	...	44		
Throat	...	...	2		

Other diseases not attributable to Scarlet Fever :—

Eczema	...	...	1
Erythema Simplex	...	...	1
Herpes	...	...	5
Dirty Heads—Nits and lice	...	...	31
Psoriasis	...	...	1
Ringworm	...	...	5
Scalp wound on admission	...	...	1
Chicken Pox	...	...	1
Urticaria, supervening on Scarlet Fever	...	...	1
Proved not to be Scarlet Fever	...	...	27
Proved to be Chicken Pox	...	...	1
Developed Scarlet Fever after admission	...	...	1
Return Cases	...	...	2

### Vaccinations.

2	had	4	extra	large	marks
5	„	2	„	„	„
1	„	1	„	mark	
13	„	4	very	good	or large marks
27	„	3	„	„	„
32	„	2	„	„	„
30	„	1	„	mark	
1	„	5	moderate	or medium	marks
1	„	4	„	„	„
8	„	3	„	„	„
12	„	2	„	„	„
18	„	1	„	„	mark
4	„	4	poor	or indistinct	marks
8	„	3	„	„	„
4	„	2	„	„	„
9	„	1	„	mark	
85	were not vaccinated				
5	said to have been, but had no marks				

There was no case of Small-Pox admitted during the year.

My thanks are due to the Matron and Nursing Staff for their help and assistance. They invariably performed their duties satisfactorily, and took much interest in the patients, not only in carrying out instructions, but also in making the patients comfortable.

G. C. PAULI, M.R.C.S., L.R.C.P.,

Visiting Medical Attendant.

### PART III.

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#### REPORT OF THE CHIEF INSPECTOR OF NUISANCES.

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PUBLIC HEALTH DEPARTMENT,

40 PRINCE STREET,

February, 1914.

1913.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH  
COMMITTEE.

GENTLEMEN,

I have once again the honour of submitting the following brief report, with summaries, showing the amount of work effected in this Department during the year 1913.

The complaints and applications received at the Office numbered 1,403, as against 1,515 in the previous year (a decrease of 112), all of which were duly enquired into as quickly as possible, and wherever a nuisance existed, steps were immediately taken for its abatement. In 324 instances no nuisance was found, so that no action was necessary; this works out at 23·09 per cent. of the whole. Last year the number equalled 21·78 of the whole. A considerable number of the applications were from persons changing residence who wished to have some guarantee that the house they proposed to take was in good sanitary condition, and in this way a considerable amount of good work has been accomplished. People will not take a house when the drains, etc., are known to be defective, and the owners prefer doing whatever is necessary to losing the prospect of a tenant. The public also now recognise that complaints are always treated as strictly confidential.



2,841 cases of notifiable infectious disease, such as Scarlet Fever and Diphtheria, were duly enquired into by the District Inspectors and the results entered on the case cards as required by the Medical Officer of Health. This is an increase of 1,174 on the number notified last year (1,667). 7,090 visits were made to infected houses, as in many instances the cases nursed at home require frequent visiting. When children attend the Elementary Schools, cards are made out and sent to the Head Teacher of the School, as well as to the School Medical Officer of the Education Committee, and this entails a considerable amount of clerical work, as three cards are required for each case.

2,646 infected houses were disinfected, and 53,166 articles of bedding, clothing, &c., removed, disinfected by steam, and returned to the houses. 939 similar articles were destroyed, their condition being such that disinfection was impossible.

The clothing of patients removed to Ham Green and Novers Hill Hospitals is not included in the above totals, as the Hospitals are both equipped with a Washington Lyons Steam Disinfector.

Non-Notifiable Infectious Diseases, such as Measles, Whooping-Cough, Chicken Pox, Mumps, &c., were also visited on receipt of notification from the Elementary Schools that certain children were absent from school in consequence of any of these diseases. 2,410 visits were thus paid, and leaflets of precautions given to the parents. In acute cases the parents were advised to secure proper medical attendance, and often did so. Disinfection is also offered and carried out wherever considered advisable, or of any practical use.

#### Small-pox.

No case of Small-pox notified during the year.

### **Tuberculosis.**

This terrible disease is still very much in evidence, 924 Pulmonary and 378 non-Pulmonary cases having been notified during the year, and every case, except where the medical attendant did not desire it, has been visited by the District Inspectors and careful notes made of the conditions of the homes and surroundings.

The number of deaths during the year was 399 Pulmonary and 97 non-Pulmonary.

Disinfection of rooms, bedding, &c., is carried out in all cases after death or removal from one house to another, and in acute cases whenever considered necessary, and disinfectants are also supplied gratuitously to the poor patients, for sputum flasks. The continued visiting of these cases is very depressing, and I hope that the energetic action now being taken throughout the country may have the effect of, at least, reducing the prevalence of this disease.

### **Notices to Abate Nuisances.**

2,105 informal or preliminary notices were served, and as usual were so successful that only 279 statutory notices were required to enforce compliance with the informal notices. These statutory notices were all complied with except four. These four were summoned; but before the day of hearing, the work was done, and the cases withdrawn on payment of costs.

In addition to the written notices, a considerable number of verbal requests were made to property owners, with satisfactory results.

Drain testing has again occupied a considerable portion of the Inspectors' time, the smoke test having been applied 1,157 times, besides a large number of water and chemical tests.

A summary of the work effected by the whole of the Inspectors is appended (Table I.)

By arrangement with the Board of Guardians the Masters at each of the Workhouses have for some time past given notice to the Medical Officer of Health of the removal, for burial by friends or relations, of the bodies of persons dying in the Workhouses. These notices give particulars as to where the body has been taken, together with the name and address of the undertaker. Your Inspectors then see that the body is not kept about for any length of time, as was often the case previously, chiefly for the purpose of going round with the hat. 270 intimations of these removals were received during the year.

#### **Houses Let in Lodgings, or Tenement Houses.**

313 May Notices for Limewashing and Cleansing of these houses were served in accordance with the Bye-Laws, and resulted in the cleansing of 822 rooms and 144 passages and stairs. A considerable number of these houses have been taken off the register for various reasons and others are now being inspected and measured up to take their place.

#### **Smoke Abatement.**

One hundred and sixty-nine observations have been made during the year, each observation taking at least an hour. The action taken by this department, chiefly a verbal notice combined with practical advice, has resulted in the abatement of 18 nuisances from the emission of black smoke, and the fixing of appliances for such abatement is now in hand at several other factories.

#### **Combined or Party Drains.**

Nineteen combined or party drains running under private property to which the drains of 171 houses were connected, have been re-laid during the year, action being taken under Section 41 of the Public Health Act, 1875, and Section 34 of the Bristol Corporation Act, 1905, the cost of the work being apportioned amongst the owners by the City Surveyor.

### Slaughter Houses.

The Slaughter Houses in the City now number 95, 1 less than last year, 1 having been struck off the Register during the year ; this one was an old Permanent Licence. There are now 57 with the old Permanent Licences, 35 Annual, one for Foreign Animals at Avonmouth, and two Knackers' yards.

These are all visited at irregular but frequent intervals by the two Urban Meat Inspectors, Messrs. Thomas and Gitsham, those for the slaughter of bacon pigs being visited daily. During the year these two Inspectors were responsible for the destruction of 28 tons 10 cwt. 2 qrs. and 5 lbs. of meat of various kinds, consisting of the entire carcasses of 7 Beasts, 9 Sheep, 91 Pigs, and 9 Calves ; the remainder being parts of carcasses and odd pieces of meat, also 29 head of Poultry and Game, 52 Rabbits, 737 packages of Fish (not weighed), 1,073 of Vegetables, and 404 of Fruit, all of which was unfit for food, and was voluntarily surrendered to them, without any trouble.

The Limewashing and Cleansing of the Slaughter Houses, as required by the Bye-Laws, has been so well carried out that no Statutory notice was required. Many improvements in the internal arrangements have been effected, particular attention being given to floors and paving.

It must be quite obvious that two Meat Inspectors cannot possibly be at all these private Slaughter Houses at the time of killing, scattered as they are throughout the City and miles apart. It is thus apparent that many carcasses escape inspection until they get to the shops, where the offal is not taken as a rule. It is, however, with much pleasure that I again bear testimony to the helpful manner of the majority of the butchers and bacon curers in the City, who, when they have a doubtful carcase and an Inspector is not in the neighbourhood, telephone to

the Office for one to come at once ; this he does and his decision as to the condition of the carcase is final. I must again express my regret that apparently there is no prospect of the provision of Public Abattoirs.

### **Housing, Town Planning Act, 1909.**

The work in connection with this Act has been continued during the year on the same lines as in the three previous years, but not to the extent that I anticipated, as the time of the District Inspectors has been so much taken up in dealing with an outbreak of Scarlet Fever during the last half of the year that very little time was left for house to house inspection. A reference to Table III. will show that up to the 31st December, 1913, 2,956 houses have been inspected under the Act. Of this number 2,276 were found to be more or less defective ; in 680 no action was necessary ; 176 have been closed by order ; 275 closed voluntarily ; 1,783 made habitable ; and 42 remain to be dealt with.

As your Committee have now appointed a special Housing Inspector, I have no doubt the work will be carried out on more extensive lines than it has up to the present been possible to do, as hitherto it has been on the principle of the survival of the fittest.

I am glad to find that now there is a movement on foot for the provision of houses suitable for the working classes, which will, I have no doubt, prevent the large increase in the number of cases of overcrowding now to be met with.

### **Factory and Workshop Act, 1901.**

I am pleased that I can again report that the work in connection with this Act has been carried on most amicably between H.M. Inspectors of Factories and this department. The workshops now registered are 1,579, an increase of sixty-one from last year, but the numbers vary very considerably from year to year. The appended summary table and Medical Officer of Health's report on



the Factory and Workshop Act shows that 652 nuisances of various kinds were found and abated during the year, and 2,556 visits were paid.

The houses of 544 outworkers were visited, in which 4 minor sanitary defects were found and successfully dealt with under notice either written or verbal, but in these cases a verbal notice given in a kindly manner is generally sufficient. 45 intimations of Sanitary defects found in factories were received from H.M. Inspectors, and 7 of protected persons found in factories were sent to them from this department.

### **Offensive Trades.**

Offensive trades have received the usual attention, 26 Nuisances of various kinds found to exist have been abated under notice either written or verbal, generally accompanied by some suggestion for the adoption of improved methods to prevent recurrence. These suggestions are generally received in the spirit in which they are given.

The Limewashing and general cleanliness of the walls and floors are specially looked after.

### **Dairies, Cowsheds, and Milk-Shops.**

Inspector Leat has again been very energetic in carrying out the duties in connection with these places, which require great tact, combined with firmness and courtesy. He has thus been able to effect great improvements in every direction, without being in any way aggressive. The lighting, ventilation, paving, water supply and general cleanliness of cowsheds have been extremely well looked after during the year. There are now 115 cowsheds, with accommodation for 943 cows within the city boundaries.

During the year, 94 Dairymen, Cowkeepers and Purveyors have been registered, consisting of:—Purveyors, 54; Dairymen, 35; and Cowkeepers, 5. One of the latter

resides outside the City, but purveys milk within the City. The Purveyors of milk registered during the year consist chiefly of small shopkeepers; and attention has been paid to the cleansing of the premises and utensils used.

The dairies and the large milkshops gave very little trouble, but the small general shops where milk is retailed in very small quantities require a large amount of attention, as, generally speaking, the milk is stored and sold under conditions which are not at all compatible with cleanliness, and I hope that in the near future the storage and sale of milk will be prohibited in all shops except those used for dairy products only.

During the year Inspector Leat has taken 35 samples of milk. 28 of these samples were taken for Tuberculosis and 7 samples for dirt examination. The results of the examination of the 28 samples showed no evidence of Tuberculosis infection, and the 7 samples for dirt examination were fairly satisfactory.

He has also given a considerable amount of attention to premises where ice-cream is manufactured and sold, particular attention being given to the cleanliness of premises, utensils, and means of storage.

### **Common Lodging Houses.**

There are now 41 of these houses in the City, 37 under private control, 1 belonging to the Corporation, and 3 are charitable institutions. There is a total accommodation in the private houses for 1,549 persons, consisting of 1,479 single male persons, 50 single females, and 10 married couples (double beds), placed in 221 rooms; the Municipal Lodging House has accommodation for 120 males, all lodged in separate cubicles; and the Institutions accommodate 220 males, and 18 females.



There are now only three houses in which both males and females are taken in, and in one of these the married couples and single women's sleeping rooms are in a house separated from the male side, and in another only two married couples are accommodated. One house accommodating 20 has been apportioned to single women only, with separate entrance yard, kitchen, lavatory, and sanitary conveniences.

There has been an all-round general improvement during the year, 8 houses have been thoroughly repaired, improved fire escape appliances provided in two, and improved sanitary conveniences in others. 78 lime-washing and 46 general Notices have been served, and promptly complied with; and the Bye-Laws generally so well observed that no proceedings have been necessary.

In concluding my report I feel that I must express my gratitude to the Health Committee for the support always given me in the discharge of my duties, and more especially for the very kindly consideration shown to me during my recent long and severe illness; also to the Medical Officer of Health, Dr. Davies, for invaluable advice and assistance, always so courteously and kindly given. I also desire to express my appreciation of the manner in which the Staff of Inspectors discharge their duties. They work together like a machine, for the betterment of the sanitary conditions of the City and the health of the citizens.

My thanks are again due and are hereby gratefully tendered to the Town Clerk and his Assistants, and to the City Engineer and his Staff for much valuable advice and assistance.

I am, Gentlemen,

Your obedient Servant,

JAMES W. KIRLEY,

Chief Inspector of Nuisances.

**Summary of Nuisances Abated and Work done under the Supervision  
of the Inspectors in the Health Department during the  
Year ending December 31st, 1913.**

*Prepared by the Chief Inspector of Nuisances.*

NATURE OF WORK.	By District Inspectors.	By Inspector of Dairies, &c.	By Inspector of Work- shops, &c.	By Inspector of Tenement Houses, &c.	By Inspectors of Slaughter Houses, &c.	By Inspector of Common Lodging Houses.	By Inspector of Bake- Houses.	Total.
Visits and revisits ... ..	36375	3061	2556	3211	19587	263	1243	66296
Drains relaid ... ..	281	5	9	2	1			298
Do. partially relaid ... ..	600	20	24	35			4	683
Sink Troughs fixed ... ..	571	16	5	7				599
Sinks, drains, &c., trapped ... ..	1016	53	33	10	6			1118
W.C.'s fitted with new pans, &c. ... ..	637	23	42	58	3		4	767
Do. repaired and cleansed ... ..	200	12	52	18				282
Do. fitted with flushing appliances ... ..	191	18	40	27	5			281
Additional W.C. accommodation ... ..	21	1	16					38
Premises repaired ... ..	539	16	9	148	2	8		722
Roofs repaired ... ..	402	27	4	41	3	11	18	506
Yards, &c., paved, floors repaired ... ..	730	57	9	48	6	2	7	859
Rooms cleansed, papered, &c. ... ..	1375		309	822				2506
Passages do. ... ..	302		14	144				460
Cesspools abolished ... ..	58	1						59
Offensive deposits removed ... ..	137	31	3	13	13			197
Manure pits, refuse bins provided ... ..	18	6			1			25
Keeping of pigs, &c., prohibited ... ..	7	56						63
Polluted wells closed ... ..	6	1						7
Company's water provided ... ..	37	3						40
Overcrowding nuisances abated ... ..	74		6	27				107
Dairies, &c., improved ... ..		24						24
Workrooms better ventilated ... ..			29					29
Offensive Trades, nuisances abated .. ..			26					26
Smoke nuisances do. ... ..			18					18
Limewashing, &c., secured ... ..		625			5		163	793
Other nuisances abated ... ..	317	8	4	23	1	14	62	429
<b>TOTALS</b> ... ..	<b>7519</b>	<b>1003</b>	<b>652</b>	<b>1423</b>	<b>46</b>	<b>35</b>	<b>258</b>	<b>10936</b>

No. of Complaints received and attended to ... ..	1403
„ Offensive Trades visited ... ..	74
„ Smoke observations taken ... ..	169
„ Times smoke test applied to drains ... ..	1157
„ Notices served, informal ... ..	2105
„ Formal Notices, and Orders ... ..	385
Half-yearly Cleansing Notices served, Common Lodging-Houses ... ..	76
„ „ „ „ Bake-Houses ... ..	92
„ „ „ „ Dairies, Cowsheds, &c. ... ..	327
„ „ „ „ Slaughter Houses ... ..	93
Yearly „ „ „ „ Tenement Houses ... ..	313
No of Visits to Houses re infectious disease ... ..	7090
„ Houses disinfected after infectious disease ... ..	2646
„ Articles of bedding, &c., removed and disinfected ... ..	53166
„ „ „ „ and burnt ... ..	939
Total number of articles dealt with ... ..	54105
Weight of Meat destroyed as unfit for food ... ..	28 tons 10 cwt. 2 qrs. 5 lbs.

**JAMES W. KIRLEY,**

CHIEF INSPECTOR OF NUISANCES.

TABLE 2.  
Summary of Work effected in the Health Department during Twelve Years—1902-1913.  
*Prepared by the Chief Inspector of Nuisances.*

TABLE SHOWING THE NUMBER OF NUISANCES ABATED AND OTHER WORK DONE IN EACH YEAR  
SINCE 1902.

	1902	1903	1904*	1905	1906	1907	1908	1909	1910	1911	1912	1913
Number of Nuisances abated .. .. .	10482	10542	11007	12232	10313	10369	9657	9364	8742	13290	11658	10936
Polluted Wells closed ..	21	11	8	22	15	8	3	3	5	14	9	7
Premises supplied with Co.'s Water .. ..	65	47	51	91	50	44	33	34	49	97	69	40
Houses disinfected ..	3130	2866	2229	1950	2070	2057	1759	1726	2089	2080	2008	2646
Articles of Bedding, &c., disinfected or destroyed .. ..	68330	63919	52813	53488	51026	46137	39841	45286	47444	51713	47176	54105

\* Enlarged City.

TABLE 3 HOUSING, TOWN PLANNING, &amp;c., ACT, 1909.

PARTICULARS OF ACTION TAKEN.											
Year.	No. of houses inspected.	Found defective.	No action taken.	Made habitable.	Out-standing at end of year.	Reported as unfit for habitation.	Closed		Closing Orders determined	Demolished.	
							Under Order.	Volun-tarily.		Under Order.	Volun-tarily.
1910	611	402	209	235	94	44	18	53	...	...	25
Houses outstanding end of 1910 :—											
				77	...	...	16	1	...	...	2
1911	1351 and 2 rooms.	1019 and 2 rooms.	332	794	118	94 and 2 rooms	72 and 2 rooms	38	3	...	33
Houses outstanding end of 1911 :—											
				107	...	...	3	8	...	...	...
1912	453	408	45	314	31	35	27	36	7	...	11
Houses outstanding end of 1912 :—											
				8	...	...	...	22	...	...	22
1913	541	447	94	248	42	120	40	117	6	13	37
Total ...	2956 and 2 rooms	2276 and 2 rooms	680	1783	...	293 and 2 rooms	176 and 2 rooms	275	16	13	130

TABLE 4.

Year	DAIRIES AND MILKSHOPS.			COWSHEDS.	
	Number Inspected.	Defects Found.	Dis-continued.	Number Inspected.	Defects Found.
1890	545	157	100	35	19
1891	858	472	115	36	13
1892	1,805	285	108	Number of Inspections. 1,173	33
1893	1,751	161	126	1,069	45
1894	1,880	189	56	1,089	41
1895	1,964	145	53	1,587	31
1896	1,972	136	62	2,426	39
1897*	2,058	97	50	2,063	55
1898	2,075	121	65	2,466	19
1899	2,187	101	73	2,499	33
1900	2,142	43	78	2,347	30
1901	1,964	89	120	2,184	33
1902	1,968	78	100	2,620	31
1903	1,809	72	93	2,049	39
1904†	1,558	117	100	2,340	36
1905	1,476	140	39	2,453	37
1906	1,476	83	97	2,340	38
1907	1,471	107	47	2,379	40
1908	1,450	72	20	1,875	13
1909	1,100	41	27	1,114	12
1910‡	937	38	14	340	25
1911	2,342	76	37	533	20
1912	2,765	81	22	497	15
1913	2,583	82	35	478	13

\* City enlarged in November, 1897.

† City enlarged in October, 1904.

‡ From June only.

City of Bristol.

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FACTORY AND WORKSHOP ACT, 1901.

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REPORT OF THE MEDICAL OFFICER OF HEALTH ON THE  
ADMINISTRATION OF THE ACT IN THE CITY OF BRISTOL  
DURING THE YEAR 1913 (Sec. 132, F. & W. Act, 1901).

**Workshops.**

The Factory and Workshop Act (1891) transferred the Sanitary control of "Workshops" and "Workplaces" from the Inspector of Factories to the City Council, acting as the Urban Sanitary Authority.

A special Inspector of Workshops was appointed: workshops were at once placed on the Register and inspected, and this control has been continuously exercised since its commencement up to the present. Upon the extension of the City in 1897, a second special Inspector of Workshops was appointed; in October 1910, one of these Inspectors was transferred to District work. The progress of the work year by year is shown in the following table:—



TABLE 1. **WORKSHOPS.** CITY OF BRISTOL.  
Showing particulars in regard to the Inspection of Workshops since 1891.

Year.	Population of City.	No. of Workshops on Register.	No. of Nuisances abated.	Visits and Revisits.	Particulars sent to H.M. Inspector.	Communications received from H.M. Inspector.
1892	223,592	134	215	970	—	5
1893	225,028	349	568	2377	303	15
1894	226,578	584	644	2188	128	18
1895	228,139	764	558	1978	29	32
1896	230,623	881	578	2456	10	35
1897	232,242	1042	660	2674	14	19
<b>CITY ENLARGED.</b>						
1898	316,900	1123	1203	4943	16	21
1899	320,911	1602	1117	4494	37	16
1900	324,973	1800	1004	4263	13	15
1901	329,086	1846	1005	4875	12	25
1902	334,632	1872	1187	5480	21	62
1903	338,895	1532	1110	5885	39	71
1904	343,204	1537	1237	5563	45	88
<b>CITY ENLARGED.</b>						
1905	358,515	1611	1366	4973	25	52
1906	363,223	1652	1058	5141	14	37
1907	367,979	1611	1305	5224	36	63
1908	372,715	1740	1306	5595	19	50
1909	377,642	1852	1154	5947	12	41
1910	387,511	1874	1325	5443	12	14
1911	357,509	1483	701	2685	8	22
1912	359,400	1518	445	2681	16	26
1913	361,362	1579	652	2556	7	45



The details of work secured during the year 1913 are shown in the following table :—

TABLE 2	Workshops.	CITY OF BRISTOL.		
Work secured by the Special Inspector of Workshops, etc., in the City of Bristol, during the year 1913.				
Total Visits and Re-visits		...	2,556	
Total Nuisances abated		...	652	
PARTICULARS OF NUISANCES DEALT WITH.				
DRAINAGE AND FILTH NUISANCES	{	Drains entirely relaid	...	9
		Drains partially relaid	...	24
		W.C.'s fitted with new pans	...	42
		W.C.'s cleansed and amended	...	52
		W.C.'s fitted with flushing appliances	...	40
		Additional W.C. accommodation pro- vided	...	16
		Sinks, Drains, etc, trapped	...	38
	Offensive Deposits removed	...	3	
STRUCTURAL DEFECTS	{	Defective Roofs repaired	...	13
		Yards paved or Floors repaired	...	9
LIMEWASHING AND CLEANSING	{	Workrooms and Passages, lime- washed and cleansed	...	323
VENTILATION AND OVERCROWDING	{	Nuisances from overcrowding abated	...	6
		Better Ventilation secured in Work- rooms	...	29
WATER SUPPLY	{	Company's Water provided	...	—
		Other Nuisances	...	48

**Home Work.**  
(SECS. 107 TO 115.)

The following table shows particulars with regard to the lists of Outworkers received during the year 1913. The lists are kept by the Town Clerk, who forwards to the Medical Officer of Health the names and addresses of those Outworkers who reside within the District of the City of Bristol.

**TABLE 3. CITY OF BRISTOL.**  
**Workshops.**  

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**OUTWORKERS.**  
Showing Lists received during the year 1913.

Nature of Employment.	February Lists.		August Lists.	
	No. of Lists.	No. of Outworkers.	No. of Lists.	No. of Outworkers.
Boot and Shoe Making	19	223	8	108
Cabinet Making, etc.	1	3	1	3
Manufacture of Wearing Apparel	58	1139	23	721
Other Trades ...	2	21	2	16
	80	1386	34	848

Upon receipt of the lists of Outworkers the Workshop Inspector visits the premises as far as possible in conjunction with his work under the other provisions of the Act. The number of premises visited in 1913 was 544, and 4 sanitary defects were found to exist, which were rectified under written notice. In addition to the defects referred to above, the premises of 114 outworkers

were lime-washed and cleansed at the verbal request of the Inspector. In 21 instances it was found that wearing apparel was being made, cleaned, or repaired in the houses where one of the inmates was suffering from an Infectious Disease (Sec. 110), but no action was required to be taken under this Section. The wearing apparel was in each instance disinfected before return to the factory. All such conditions as are specified in Sections 109 and 110, have, since the adoption of the Notification Act in 1890, been most carefully guarded against by a complete system of administering the Notification and Public Health Acts, in which these questions have always received special attention.

**Factory and Workshop Act, 1901.**

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**Inspection of Bakehouses for the year 1913.**

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*Report of the Inspector in respect of work done under the Provisions of the above Act, with particulars of the conditions found.*

The number of Bakehouses in operation at some period of the year was 314, or 7 less than in 1912.

Inspection operations under the provisions of the Act of 1884 were commenced in that year, and have been regularly continued since.

This year 1,243 Inspections of Bakehouses have been made—fourteen less than last year.

It was found that the Limewashing Regulations had been better carried out, as 18 less requirements had to be made for this to be done.

Defaults in general cleaning of floor, fittings, utensils, etc., increased in number from 39 to 46. A higher standard is constantly urged where necessary in this respect, and with success in most cases.

The general condition of Bakehouses is improving year by year

The number of Bakehouses that come within the provisions of the Underground Bakehouse Act, in use, was 23, but only sixteen of these are totally underground, the remainder being only partially so.

All the notices, numbering 246, were complied with, or were in hand at the end of the year.

S. O. DIMOND,  
Inspector of Bakehouses

## CITY OF BRISTOL.

**Workshops. TABLE 4.****BAKEHOUSES.**

Showing defects found and remedied in each year since bakehouse inspection was instituted.

Year.	Particulars.	Total
1884	Total contraventions found in respect of cleansing, limewashing, defective drains, repairs and defective ventilation.	342
1885	Ditto	244
1886	Ditto	96
1887	Ditto	132
1888	Ditto	69
1889	Ditto	65
1890	Ditto	89
1891	Ditto	80
1892	Ditto	71
1893	Ditto	36
1894	Ditto	57
1895	Ditto	74
1896	Ditto	57
1897	CITY ENLARGED IN 1897.	140
1898	Ditto	178
1899	Ditto	168
1900	Ditto	172
1901	Ditto	151
1902	Ditto	198
1903	Ditto	192
1904	CITY ENLARGED, including special work required in underground bakehouses.	250
1905	Ditto	230
1906	Ditto	232
1907	Ditto	281
1908	Ditto	205
1909	Ditto	246
1910	Ditto	201
1911	Ditto	232
1912	Ditto	244
1913	Ditto	246

TABLE 5. **Table of Bakehouse Inspection for the Year.**  
With particulars of Conditions, Contraventions, Actions taken, and Results.

Number of Bakehouse premises found to be in good or passable order and condition ...		Total number of inspections and visits ...		Total number of inspections and visits ...		Total number of inspections and visits ...	
Ditto		not in satisfactory condition from one of the undermentioned defects		...		...	
263		263		246		1243	
263		263		246		1243	

PARTICULARS OF DEFECTS AND CONTRAVENTIONS.

Total Defects	Nature of Defects, etc., and Improvements secured.	Total Notices	Description of Notices Complied with.
263	Contraventions of Lime-washing regulations ... Ditto General cleaning ... Bakehouse premises with defective drainage ... Ditto with defective floors, roofs, paving, or other dilapidations ... Removal of Manure accumulations and other Nuisances ... Waterclosets reconstructed and Flushed ... Ventilation Improved ...	163 46 4 25 16 4 5 263	Informal Notices given to abate nuisances, effect repairs, or comply with Regulations Various Written Notices served and complied with, or under way at end of the year ...
263		246	246

S. O. DIMOND, *Inspector.*

FACTORY ACT.

HOME OFFICE FORM.

# Annual Report of the Medical Officer of Health for the year 1913, for the City of Bristol.

on the Administration of the Factory and Workshop Act, 1901, in  
connection with

FACTORIES, WORKSHOPS, WORKPLACES  
AND HOMEWORK.

## 1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

Including Inspections made by Sanitary Inspectors or Inspectors of  
Nuisances.

Premises.  (1)	Number of		
	Inspections (2)	Written Notices (3)	Prosecutions (4)
Factories .. .. . (Including Factory Laundries)	558	37	None
Workshops .. .. . (Including Workshop Laundries)	1452	40	None
Workplaces .. .. . (Other than Outworkers' prem- ises included in Part 3 of this Report)	None	None	None
TOTAL ..	2010	77	None

During 1913, 575 nuisances and defects were remedied under verbal  
notice.



2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS,  
AND WORKPLACES.

Particulars.	Number of Defects.			No. of Prosecutions		
	Found	Remedied	Referred to H.M. Inspector			
(1)	(2)	(3)	(4)	(5)		
* <i>Nuisances under the Public Health Acts :—</i>						
Want of Cleanliness ... ..	323	323	Re-employment of young persons 7	None		
Want of Ventilation ... ..	29	29				
Overcrowding ... ..	6	6				
Want of drainage of floors ... ..	None	None				
Other Nuisances ... ..	144	144				
Sanitary Accommodation :—						
Insufficient ... ..	16	16				
Unsuitable or defective... ..	134	134				
Not separate for sexes ... ..	—	—				
<i>Offences under the Factory and Workshop Act :—</i>						
Illegal occupation of underground bake-houses (S. 101) ... ..	None	None				
Breach of special sanitary requirements for bakehouses (Ss. 97 to 100) ... ..	None	None				
Other offences ... .. (Excluding offences relating to outwork which are included in Part 3 of this Report.	—	—				
Total ... ..	652	652	7	None		

\* Including those specified in Sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

## 3.—HOME WORK.

225

*NATURE OF WORK.	OUTWORKERS' LISTS. SECTION 107.									OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	Lists Received from Employers.						Notices served on Occupiers as to keeping or sending lists.	Prosecutions.		Instances.	Notices Served.	Prosecutions	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 119).
	Sending twice in the year			Sending once in the year.				Failing to keep or permit inspection of lists.	Failing to send lists						
	† Lists	† Outworkers		Lists	Outworkers.										
		Con-tractors	Work-men		Con-tractors	Work-men									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Wearing Apparel—Making, &c.—															
(1) Tailoring ... ..	40		1450	35		332							21.		
(2) Corset-making ... ..	2		6	4		72									
(3) Boot-making ... ..	16		231	11		100									
(4) Glove-making ... ..	—		—	—		—									
Wearing Apparel—Washing ... ..															
Furniture and Upholstery ... ..	2		6	—		—									
Sacks and Bag-making ... ..	—		—	—		—									
Brush-making ... ..	2		28	—		—									
Stationery ... ..	2		9	—		—									
TOTAL ... ..	64		1730	50		504	58	None	None	None	None	None	21	None	None

\* If an occupier gives out work of more than one of the classes specified in column 1, and sub-divides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 5 as the case may be) against the principal class ONLY, but the outworkers should be assigned in columns 3 and 4 (or 6 and 7) into their respective classes. A footnote should be added to show that this has been done.

† The figures required in columns 2, 3 and 4 are the TOTAL number of the lists received from those employers who comply strictly with the statutory duty of sending two lists each year and of the entries of names of outworkers in those lists. The entries in column 2 must necessarily be EVEN numbers, as there will be two lists for each employer—in some previous returns odd numbers have been inserted. The figures in columns 3 and 4 will usually be (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.





## 4—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year (1)	Number (2)
Important classes of workshops, such as workshop bakehouses, may be enumerated here :—	
Workshops ... ..	1579
Workshop Bakehouses ... ..	314
Total number of workshops on Register ...	1893

## 5—OTHER MATTERS.

Class. (1)	Number (2)
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133) ... ..	7
Action taken in matters re- ferred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5).	Notified by H.M. } Inspector } Reports (of action } taken) sent to H. } M. Inspector ... }
Other ... ..	45
Other ... ..	45
Other ... ..	None
Underground Bakehouses (S. 101) :—	
Certificates granted during the year ...	None
In use at the end of the year—	
Underground ... ..	16 }
Partially underground ... ..	7 }
	23

NOTE.—The Factory and Workshop Act, 1901 (s. 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, workplaces or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December 1904. A further Memorandum on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health, in October 1906.

D. S. DAVIES, M.D., LL.D.

Medical Officer of Health.

## METEOROLOGICAL OBSERVATIONS AT BRISTOL, 1913.\*

JANUARY.—A most unsettled month throughout, and remarkable for being in this locality the wettest January for over 40 years. During its early days the constant rains were associated with a continuance of the warmth which characterised December, but after the 12th the temperature upon the whole was fairly seasonable. At the same time, beyond one slight snowfall during the night following the 13th, and a few frosty nights, there was no really wintry weather.

The mean temperature (max. and min.) was 41·1 degrees; this being over two degrees above the average, and three in excess of that a year ago. The maximum reading was 50 degrees upon the 4th, 5th, and 30th, and the minimum 29 degrees on the 13th—a range of 21 degrees. The warmest day was the 4th, with a mean temperature of 47 degrees; and the coldest the 13th, mean 33 degrees. At Frampton Cotterell the mean temperature was 41·3 degrees, the extremes 51·6 degrees on the 5th and 24·5 degrees on the 13th, and the number of frosty nights 7.

The total rainfall locally was 5·95 inches at Clifton, and 4·70 inches at Frampton Cotterell; falling upon 25 and 22 days respectively. The value at Clifton shows an excess of 2·94 inches. A heavy fall upon the 4th yielded at Clifton 1·14 inches.

Mean atmospheric pressure at 9 a.m. was 29·761 inches, a value far below that of any January for many years past. The greatest pressure recorded was 30·337 inches on the 26th, and the least 29·096 inches on the 20th.

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\* The Medical Officer of Health is indebted to Messrs. Harding and Rintoul for these returns.

FEBRUARY.—Up to and including the 9th rain fell every day, accompanied by a temperature well above the average. The falls, however, were mostly inconsiderable, the weather steadily improving during the period until on the 9th a large anti-cyclone, situated over the Continent, began to spread west and north, until its influence extended over the whole of our islands. The weather consequently became dry and much more seasonable, with frosty nights and much fog up to the 15th. Then the wind became easterly, with very dry and cold conditions to the 22nd. The concluding days were much milder and somewhat unsettled, but the weather upon the whole remained fine.

The mean temperature was 40·8 degrees, this being the odd fraction above the normal, and the fourth occasion in succession in which the month has shown an excess of warmth. The maximum recorded was 55 degrees on the 9th, and the minimum 28 degrees on the 23rd—a range of 27 degrees. The warmest day was the 9th, with a mean temperature of 49 degrees; and the coldest the 20th, mean 33 degrees. At Frampton Cotterell the mean was 40·5 degrees, and the extremes 53·6 degrees on the 9th, and 26·9 degrees on the 12th. Twelve frosty nights were observed.

The total rainfall varied locally from 1·14 inches at Clifton to 0·88 inch at Frampton Cotterell; falling upon 15 and 11 days respectively. The fall at Clifton shows a deficiency of over  $1\frac{1}{4}$  inches. At Clifton the heaviest day's fall was 0·18 inch on the 2nd, and at Frampton Cotterell 0·20 inch on the 7th.

Mean atmospheric pressure was much above the normal, the corrected value at 9 a.m. being 30·167 inches. These figures are over half-an-inch above that of the month in 1912. The extremes were 30·707 inches on the 12th, and 29·577 inches on the 1st.



MARCH.—This month brought a complete reversal of the conditions prevailing during February, wet weather setting in at its very commencement, and continuing almost without a break right up to Easter Day. The prospects therefore for the first great holiday of the year were anything but rosy, especially as the 21st brought the heaviest and most extensive rainfall of the month to our islands. Happily, however, the unexpected was to happen, for a most welcome change immediately followed, and Bank Holiday and the following day or so were everything that could be wished for. The last few days brought a return to very unsettled weather.

The mean temperature was 44·5 degrees, which, although over two below that of the preceding March, was two degrees above the normal. The maximum was 57 degrees on the 31st, and the minimum 28 degrees on the 18th—showing a range of 29 degrees. The warmest day occurred on the 5th, with a mean temperature of 50 degrees; and the coldest on the 18th, mean 37·5 degrees. At Frampton Cotterell the mean for the month was 43·6 degrees, and the extremes 54·7 degrees on the 31st, and 24 degrees on the 1st. Fine frosty nights were recorded.

The total rainfall was 3·44 inches at Frampton Cotterell, and 4·33 inches at Clifton; falling upon 21 and 22 days respectively. The excess at Clifton amounted to just under two inches, although the fall did not reach that of the month in 1912 by threequarters of an inch.

Mean atmospheric pressure at 9 a.m. was 29·858 inches, a value well below the average. The extremes of pressure were 30·532 inches on the 9th, and 28·922 inches on the 19th.

APRIL.—Among the few bright spots in the weather of 1912 were the fine conditions and brilliant sunshine of April, following, as they did, a long period of almost continuous rains. This year once again March proved very wet, but although April did not give much rain up

to the 13th, the rest of the month was an almost unbroken series of rainy days. Right through, apart from isolated days, the weather was anything but agreeable, for even the dry period was upon the whole cold and sunless. Towards the close some unusually deep cyclonic disturbances, for the time of year, appeared off our Western Coasts, bringing very rough weather, and almost continuous rains, to nearly all parts of our islands.

The mean temperature was 47·7 degrees, this being just the average for the month. The extremes were 67 degrees on the 23rd, and 33 degrees on the 8th—showing a range of 34 degrees. The warmest day was the 23rd, with a mean temperature of 56 degrees; and the coldest the 12th, mean 39 degrees. At Frampton Cotterell the mean was 47·3 degrees, the maximum being 67·7 degrees on the 23rd, and the minimum 31·6 degrees on the 8th. Only one frosty night occurred.

The rainfall locally varied from 3·10 inches at Clifton to 2·94 inches at Frampton Cotterell; falling upon 18 and 17 days respectively. At Clifton the excess over the normal was 0·82 inch.

Mean atmospheric pressure was 29·836 inches, these figures being well below the average. The greatest pressure recorded at 9 a.m. was 30·170 inches on the 9th, and the least 29·283 inches on the 27th.

MAY.—During the first twelve days of this month rain fell regularly, accompanied at times by very rough winds, and a temperature which did not come within even a fair distance of the average. The 13th, however, brought a radical and most welcome change, and throughout the remainder of the month there were only three more days with a measureable rainfall. For a time, although sunshine was abundant, the temperature remained somewhat low; but from the 24th onward a

spell of real summer was experienced, the temperature exceeding 70 degrees upon seven consecutive occasions.

The mean temperature was 54 degrees, just half a degree above the normal. The maximum observed was 79 degrees on the 26th, and the minimum 38 degrees on the 2nd and 7th. The warmest day was the 26th, with a mean temperature of 67 degrees; and the coldest the 3rd, mean 44·5 degrees. At Frampton Cotterell the mean was 53·2 degrees, and the extremes 79 degrees on the 26th, and 34 degrees on the 2nd.

The total rainfall at Clifton was 2·70 inches, and at Frampton Cotterell 2·39 inches, falling upon 17 and 15 days respectively. The value at Clifton exceeds the average by 0·45 inch.

Mean atmospheric pressure was 29·891 inches, these figures being well below the average for the months. The maximum reading observed at 9 a.m. was 30·307 inches on the 24th, and the minimum 29·429 inches on the 4th.

JUNE.—The extremes to which our climate is subject is well exemplified by comparing the weather of this month with that of June in 1912. Then, only six days were entirely rainless, and upon one occasion alone were there two consecutive dry days. This time, after the 10th, rain only fell upon four days; and although falls occurred daily from the 5th to the 10th, it would be easy to find quite a number of daily amounts from the month's record in 1912, which would cover and to spare the total for these six days. In other respects, the month was of a fairly average character, sunshine being abundant at the commencement and at the close; while, during the middle portion, a good deal of cloud prevailed, with a temperature at times decidedly below the normal.

The mean temperature was 59 degrees, this value showing a deficiency of just half a degree. The maximum recorded was 81 degrees on the 16th, and the minimum 46 degrees on the 9th—showing a range of 35 degrees. The warmest day occurred on the 16th, with a mean temperature of 66 degrees; and the coldest on the 11th, mean 54·5 degrees. At Frampton Cotterell the mean was 57·6 degrees, and the extremes 80·5 degrees on the 16th and 37·6 degrees on the 1st.

The total rainfall at Clifton was 1·07 inches, and at Frampton Cotterell 0·80 inch; the number of rainy days being 9. These figures show a deficiency of over 1¼ inches, and are four inches below the quantity recorded for the month in 1912.

Mean atmospheric pressure was above the average, the figures for 9 a.m. being 30·086 inches. The maximum was 30·381 inches on the 28th, and the minimum 29·775 inches on the 5th.

JULY.—Taking our islands as a whole this was a far drier month than it was in 1911; but, apart from the closing week, the weather in other respects was very unlike that month of brilliant sunshine and tropical heat. Indeed, excepting the last few days, conditions were never really settled; much cloud prevailing, while rainfalls were frequent. These, however, apart from moderate falls on the 7th, 19th, and 21st, were most insignificant, besides occurring almost invariably at night or during the early morning, so that as the preceding month and also the greater portion of May were remarkably dry, rain was urgently needed towards the close of the month.

The mean temperature was 60·8 degrees, a value over a degree below the normal. The extremes were 77 degrees on the 1st and 28th, and 47 degrees on the 8th—a range of 30 degrees. The warmest day was the 1st, with a mean temperature of 65·5 degrees; and the

coldest the 7th, mean 54.5 degrees. At Frampton Cotterell the mean was 60.5 degrees; the maximum recorded being 81.7 degrees on the 29th, and the minimum 44.3 degrees on the 27th.

The total rainfall at Clifton was 0.55 inch, and at Frampton Cotterell 0.48 inch, falling upon 14 and 9 days respectively. These values are four inches below that recorded in 1912, and show a deficiency of nearly 2½ inches.

Mean atmospheric pressure at 9 a.m. was 30.075 inches, these figures being above the average. The greatest pressure recorded was 30.390 inches on the 1st; and the least 29.799 inches on the 6th.

AUGUST.—Like the preceding summer months, August in its weather showed a complete contrast to that which it brought the year before. Still, although fine in its general features, there was none of the exhausting heat and sunshine which characterised the month in 1911; the weather throughout being remarkably equable and fair, with, after the first week, many small rainfalls and much cloud. In fact, apart from its large deficiency of rainfall, the month, in nearly every other feature, closely approximated to the average. Indeed, its general fair weather, equable temperature, and lack of rough winds, made it one of the pleasantest holiday months on record.

The mean temperature was 61.9 degrees, a value over a degree above the normal, and no less than 5½ degrees above that of the month in 1912. The maximum was 79 degrees on the 3rd and 28th, and the minimum 47 degrees on the 4th, 8th, and 19th—showing a range of 32 degrees. The warmest day occurred on the 28th, with a mean temperature of 68.5 degrees; and the coldest on the 9th, mean 55 degrees. At Frampton Cotterell the mean was 60.9 degrees, and the extremes 79.7 degrees on the 28th, and 40.9 degrees on the 26th.



The total rainfall varied locally from 1·61 inches at Clifton to 1·12 inches at Frampton Cotterell ; falling upon 13 and 14 days respectively. These figures show a deficiency of over two inches ; while the value for Clifton is nearly seven below that recorded a year ago.

Mean atmospheric pressure was in excess of the average, the figures at 9 a.m. being 30·074 inches. The extremes of pressure were 30·286 inches on 26th, and 29·757 inches on the 30th.

SEPTEMBER.—During the first five days as much rain fell as throughout the whole of the two preceding months, and more than twice the quantity recorded for September, 1912. Still, as things were, this heavy rainfall was very welcome, and although the remainder of the month contained a good few rainy days, there were a still larger number that were very fine and dry and most enjoyable. As a rule, this month brings towards its close a substantial reduction of temperature, but in this instance the concluding week proved by far the warmest and most summerlike of the four.

The mean temperature was 58 degrees, a value nearly five above that of the month a year ago, and over a degree above the normal. The highest reading was 77 degrees on the 27th, and the lowest 44 degrees on the 16th—showing a range of 33 degrees. The warmest day was the 27th, with a mean temperature of 67 degrees ; and the coldest the 2nd, mean 54 degrees. At Frampton Cotterell the mean was 57·6 degrees, and the extremes 76 degrees on the 27th, and 43·2 degrees on the 16th.

The total rainfall recorded at Clifton was 3·74 inches, and at Frampton Cotterell 2·45 inches, falling upon 15 and 12 days respectively. Upon the 4th a fall of 1·20 inches was recorded at Clifton, this being the heaviest day's fall during the year. The total for the month exceeded the average by three-quarters of an inch.

Mean atmospheric pressure showed a considerable deficiency, the figures for 9 a.m. being 29·960 inches. The extremes of pressure were 30·370 inches on the 7th, and 29·285 inches on the 14th.

OCTOBER.—Commencing with some days of wet and thundery weather, the month concluded with a short period of somewhat similar conditions. Between whiles, however, the weather was, for the time of year, as near perfection as can be expected in our changeable climate. At the same time, although from the 9th to the 26th inclusive only four rainy days were recorded, conditions were never really settled. Still, the weather was very fair and pleasant, with occasional days that were quite summerlike. A pleasant feature of the month was the almost complete absence of the rough cyclonic storms, which so often come at this time of year as a reminder of the near approach of winter.

The mean temperature was 50 degrees, this being 0·7 degree above the normal. The maximum recorded was 67 degrees on the 19th, and the minimum 38 degrees on the 22nd and 24th—showing a range of 29 degrees. The warmest day was the 19th, with a mean temperature of 59 degrees; and the coldest the 24th, mean 43·5 degrees. At Frampton Cotterell the mean was 52·1 degrees, and the extremes 66·5 degrees on the 2nd, and 31 degrees on the 25th. At this station one frosty night was observed.

The total rainfall was 2·84 inches at Clifton, and 2·24 inches at Frampton Cotterell; falling upon 16 and 14 days respectively. These values show a deficiency in this locality of just an inch.

Mean atmospheric pressure was 29·837 inches, these figures being deficient to the extent of a tenth of an inch. The extreme readings were 30·409 inches on the 13th, and 29·119 inches on the 29th.



NOVEMBER.—This month was throughout unsettled, there being very few days that were entirely without rainfall. Still the centres of the depressions which controlled the weather kept, almost without exception, far to the north or west of our islands. The consequence of this was that while strong winds and gales often prevailed on our extreme northern and western coasts, the weather over the greater portion of our islands was continuously very mild, and seldom of a stormy character. Altogether the month was anything but unpleasant, and possessed a temperature as high as that of an ordinary April.

The mean temperature was 47·9 degrees, this being over four above the average. The maximum recorded was 59 degrees on the 1st and 2nd, and the minimum 31 degrees on the 23rd—showing a range of 28 degrees. The warmest day was the 2nd, with a mean temperature of 54·5 degrees; and the coldest the 23rd, mean 38·5 degrees. At Frampton Cotterell the mean was 46·7 degrees; and the extremes 58 degrees on the 10th, and 22·6 degrees on the 23rd. Two frosty nights were observed.

The rainfall locally varied from 3·32 inches at Clifton to 2·54 inches at Frampton Cotterell, falling upon 24 and 19 days respectively. These figures show the fall to be an average one.

Mean atmospheric pressure at 9 a.m. was 29·903 inches, a value a little below the normal. The extreme readings recorded were 30·444 inches on the 29th, and 29·201 inches on the 12th.

DECEMBER.—Apart from some rough, stormy conditions on the 3rd and 4th, the weather until well into the third week was very mild and equable. On the 17th, however, a decided change occurred, pressure

becoming of an entirely anti cyclonic character over our islands, so that the weather became much colder and very quiet. Mild conditions again returned with Christmas Day, but the temperature soon went down again, and this to such good purpose that the last day of the year proved in this locality the coldest experienced since the 5th of February, 1912.

The mean temperature was 40·7 degrees, a value over a degree above the average, although three below that of the month in 1912. The maximum recorded was 52 degrees on the 2nd and 9th, and the minimum 26 degrees on the 31st. The warmest day was the 8th, with a mean temperature of 50 degrees; and the coldest the 31st, mean 29·5 degrees. At Frampton Cotterell the mean was 40·6 degrees, and the extremes 52·7 degrees on the 9th, and 24·4 degrees on the 31st. There were 11 frosty nights.

The total rainfall was 2·18 inches at Clifton, and 1·63 inches at Frampton Cotterell, falling upon 21 and 17 days respectively. These values show a deficiency locally of over an inch, and are four inches below that recorded in 1912.

Mean atmospheric pressure was much above the average, the figures at 9 a.m. being 30·119 inches. The highest reading recorded was 30·692 inches on the 21st, and the lowest 29·460 inches on the 28th.

Taking the year as a whole it may be said that it is seldom that so favourable a season is experienced, looking at it from all points of views. In fact, apart from the inclemency of the weather during April and the early days of May, and the unpleasant conditions prevailing in January and March, the year throughout was of the most enjoyable and, from an agricultural point of

view, prosperous character. At the same time one or two substantial rainfalls during the summer months would have been very welcome.

H. H. HARDING, F.R., Met. Soc.

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For the rainfall values at Clifton, and also for those relating to temperature (except where otherwise noted) given in the foregoing notes, I am indebted to the courtesy of Mr. R. F. Sturge, F.R. Met. Soc.

The rainfall values at Clifton are taken at an altitude of 215 feet above sea level, and those for Frampton Cotterell at 166 feet.

**Meteorology for the 53 Weeks, ending January 3rd, 1914.**  
*Height above Mean Sea Level—250 feet.*

CLIFTON COLLEGE.

1913.	BAROMETRIC PRESSURE at 30° and Sea Level			Mean Temperature	Highest Mean Daily Temperature	Lowest Mean Daily Temperature	Max. Temperature in Shade	Min. Temperature at 4ft. above ground	Min. Temperature at 4ft. above ground	Mean Daily Range of Thermometer	Greatest Daily Range of Thermometer	Smallest Daily Range of Thermometer	Mean Humidity	Grains of Vapour in a cubic ft. of air	Prevailing Wind
	Week Ending	Mean Inches	Highest Inches	Lowest Inches											
Jan.	4	29.97	30.33	29.81	44.7	46.6	43.0	52.1	33.9	32.0	19.8	2.5	87.1	3.06	S.
"	11	29.88	30.07	29.61	45.5	48.7	42.7	52.4	35.2	27.4	14.9	1.3	86.8	3.20	S.
"	18	29.61	29.81	29.29	38.1	39.9	33.8	45.6	29.7	26.4	13.4	1.6	89.8	2.36	S.-W.
"	25	29.69	30.12	29.10	43.2	48.1	40.2	52.0	31.1	26.8	18.3	2.8	88.5	2.84	S.-N.W.
Feb.	1	29.88	30.36	29.46	40.4	46.1	35.5	51.5	30.0	26.7	12.9	4.7	87.4	2.49	N.W.
"	8	30.07	30.35	29.89	46.5	50.6	42.8	53.1	35.4	30.1	15.7	4.5	83.9	2.93	S.-S.W.
"	15	30.50	30.72	30.31	40.2	50.1	33.6	54.2	29.1	30.4	14.4	6.9	91.6	2.77	†
"	22	30.28	30.51	30.15	36.3	40.5	33.4	45.8	29.3	26.0	11.4	6.2	84.0*	2.04*	N.E.
Mar.	1	30.01	30.30	29.73	42.0	46.7	37.7	53.8	30.2	25.7	16.9	4.1	83.9	2.49	S.E.
"	8	30.08	30.29	29.97	46.4	50.3	40.9	55.4	33.5	28.8	16.1	7.7	81.9	2.94	W.
"	15	30.21	30.55	29.81	44.7	49.5	40.8	53.9	33.1	27.9	16.5	8.7	82.5	2.89	W.
"	22	29.46	29.78	28.93	43.0	46.5	39.0	52.1	28.5	25.0	21.0	8.1	74.8	2.42	W.
"	29	29.76	30.33	29.21	44.6	46.7	42.2	55.3	34.9	29.0	20.0	12.6	83.2	2.65	E.
April	5	29.91	30.11	29.65	47.6	49.6	45.4	56.4	38.3	33.0	18.1	9.9	79.9	2.85	N.E.
"	12	30.05	30.18	29.87	44.9	48.4	40.3	53.6	34.1	31.9	15.9	7.4	73.8	2.43	E.
"	19	29.76	30.16	29.37	46.8	50.0	41.9	55.3	35.7	31.8	12.8	6.0	73.9	2.81	W.
"	26	29.81	30.11	29.42	52.3	57.6	45.6	68.1	38.1	35.1	20.9	8.8	70.5	3.25	S.W.
May	3	29.78	30.03	29.29	49.0	51.6	45.5	58.0	39.8	34.3	18.2	4.9	81.5	3.45	S.-W.
"	10	29.56	29.70	29.45	49.6	51.6	46.0	59.7	39.8	34.2	16.2	5.6	81.0	3.28	S.-E.
"	17	30.00	30.19	29.76	54.6	59.5	50.6	69.1	40.1	38.6	25.4	11.0	75.3	3.37	N.
"	24	30.09	30.33	29.91	53.8	61.0	49.5	71.1	42.6	37.7	20.1	9.1	77.4	3.42	W.
"	31	30.01	30.28	29.64	63.0	66.2	53.9	79.0	49.1	47.5	25.7	9.7	69.7	4.54	S.E.
June	7	29.97	30.10	29.79	57.6	62.4	53.3	72.1	45.0	38.5	22.0	7.7	70.6	3.88	S.
"	14	30.09	30.36	29.81	56.2	58.2	54.0	65.2	48.1	44.8	14.2	11.1	79.0	3.99	W.
"	21	30.09	30.22	30.02	62.4	69.1	56.7	83.0	51.8	48.9	29.5	7.2	68	4.10	N.W.
"	28	30.20	30.40	30.05	59.0	62.3	56.1	73.9	49.3	45.3	23.2	6.2	1.0	4.07	W.

\* Average of 4 days.

† Fog, and therefore no wind, for 5 days.

Sun. W.; Mon. S.





## Rainfall 1913.

MONTH.			Rainfall in Inches.	Average of 31 years.	Departure from Average	No. of days on which 0·1 inches or more rain fell.
January	...	...	5·630	2·689	+ 2·941	22
February	...	...	0·985	2·210	- 1·225	13
March	...	...	4·210	2·458	+ 1·752	21
April	...	...	3·040	2·224	+ 0·816	16
May	...	...	2·485	1·994	+ 0·481	16
June	...	...	1·020	2·493	- 1·473	10
July	...	...	0·420	2·663	+ 2·243	11
August	...	...	1·380	3·323	- 1·943	11
September	...	...	3·735	2·521	+ 1·214	15
October	...	...	2·666	3·863	- 1·197	15
November	...	...	3 110	2·988	+ 0·122	22
December	...	...	2·272	3·649	- 1·377	16
			30·953	33·075	- 2·122	188

D. RINTOUL.

**Rainfall of 1913.**  
Taken at Clifton College.

WEEK ENDING	RAIN INCHES	WEEK ENDING	RAIN INCHES
January 4	1·510	July 5	·110
„ 11	1·035	„ 12	·090
„ 18	·965	„ 19	·080
„ 25	1·340	„ 26	140
February 1	1·190	August 2	Nil.
„ 8	·560	„ 9	·550
„ 15	·185	„ 16	·19
„ 22	·010	„ 23	·340
March 1	·370	„ 30	·26
„ 8	·680	Sept. 6	1·97
„ 15	1·005	„ 13	1·16
„ 22	1·500	„ 20	·355
„ 29	·725	„ 27	·290
April 5	·070	October 4	·535
„ 12	·125	„ 11	1·230
„ 19	1·26	„ 18	·230
„ 26	0·60	„ 25	·036
May 3	1·69	Nov. 1	·715
„ 10	·950	„ 8	·730
„ 17	·210	„ 15	1·535
„ 24	·300	„ 22	·590
„ 31	·340	„ 29	·105
June 7	·510	Dec. 6	1·435
„ 14	·350	„ 13	·099
„ 21	·040	„ 20	·090
„ 28	·120	„ 27	·680
		1914	
		Jan. 3	·038



## CONTENTS, 1913.

## PART I.

## REPORT OF THE MEDICAL OFFICER OF HEALTH.

	PAGE
SITE AND SOIL ... ..	5
CLIMATE ... ..	6
POPULATION AND ACREAGE ... ..	8
TABLE A—Population, Acreage and Density ...	9
Estimated Population—Registration Sub-districts, Population at Groups of Ages ... ..	10
Census Results—1911 ... ..	11
Census, 1911—Return of Occupations—Males and Females ... ..	13
Poor Law Relief ... ..	19
Extent to which Hospital and other forms of gratuitous medical relief were utilised during 1913 ... ..	20
Water Supply ... ..	21
do. Analytical Data ... ..	24
Sewerage, Drainage, Scavenging, etc. ...	25
Parks and Open Spaces ... ..	25
Medical Inspection in Public Elementary Schools	25
Hygienic Condition of School Buildings ...	27
Table showing number of Cases of Notifiable diseases among children attending the Public Elementary Schools during 1913 ... ..	29
Table showing number of cases of Non-notifiable diseases forwarded to Medical Officer of Health in 1913 ... ..	34
Public Health (Milk and Cream) Regulations, 1912—Report for the year, 1913 ... ..	39
Food and Drugs' Act ... ..	40

## II.

	PAGE
Housing of the Working Classes—Table showing action taken, 1890—1909 ...	41
Housing, Town Planning, etc. Act, 1910—1913 ...	42
Mortuaries ...	42
Municipal Lodging House ...	42
City Accountant's Report and Financial Statement ...	43
Baths and Wash-houses ...	46

### GENERAL AND VITAL STATISTICS :—

Population ...	47
Births, Marriages and Deaths ...	48
Infant Mortality ...	49
Seven Chief Epidemic Diseases ...	50
Mortality at ages 5-65, Mortality of Aged People	50

### PREVALENCE OF SICKNESS :—

Small-pox, 1886—1913 ...	51
Vaccination ...	52
Scarlet Fever ...	53
Scarlet Fever in Bristol—1913 ...	56

LACK OF HOSPITAL ACCOMMODATION ...	56
Typhoid Fever, 1890—1913 ...	61
Report on Typhoid Carrier ...	64
Diphtheria (including Membranous Croup) ...	65
TABLE I.—Diphtheria, 1890—1913 ...	66
TABLE II.—Cases notified and Deaths, 1913	67
TABLE III.—Cases and Deaths in Sub-districts, 1913 ...	68
TABLE IV.—Notifications in each Quarter in Sub-districts ...	69
TABLE V.—Cases removed to Hospital ...	70
TABLE VI.—Laboratory Examinations in Diphtheria and Enteric Fever...	71
Diphtheria—Deaf and Dumb Institution ...	72
Antitoxin in Diphtheria—Memorandum	73-74
Cholera—Choleraic Diarrhœa—Plague ...	75

# III.

## PREVALENCE OF SICKNESS:—*continued.*

	PAGE
Diarrhœa—Infantile Diarrhœa ...	75
Infantile Diarrhœa in Bristol, 1908—1913 ...	75
Erysipelas .. ...	77
Puerperal Fever ...	77
Typhus Fever... ..	77
Measles ... ..	77
Whooping Cough ... ..	78
Influenza ... ..	78
Cerebro-Spinal Fever and Anterior Polio-Myelitis	79
Venereal Diseases ... ..	79
Tuberculosis—Phthisis ... ..	80
Phthisis in Bristol—1838—1913 ... ..	81
Summary of Municipal Action for the control of Tuberculosis ... ..	84
Pamphlet Advice ... ..	85
Sputum Flasks ... ..	85
Regulations against Spitting ... ..	85
Notification—1905—1913 ... ..	85
Disinfection—1905—1913 ... ..	86
Notification of Children attending School—1905—1913 ...	87
Sanatorium Provisions for Early Cases ... ..	87
After History of Winsley Cases ... ..	88
Advanced Cases ... ..	88
Pathological Diagnosis ... ..	89
Control of Milk Supplies .. ...	89
Protection of Meat Supplies ... ..	90
Housing Conditions—Overcrowding ... ..	90
Bristol Municipal Tuberculosis Dispensary ... ..	91

— NATIONAL INSURANCE ACT—Permanent	
Tuberculosis Scheme ... ..	93
Tuberculosis Notification—1913 ... ..	96
do. Deaths, 1913 ... ..	100
Winsley and Ham Green Sanatoria ... ..	101
Winsley Sanatorium ... ..	101
After History of Patients treated in Bristol Maintained Beds at Winsley Sanatorium ...	102
Ham Green Sanatorium ... ..	102

# IV.

## PAGE

### NATIONAL INSURANCE ACTS, 1911—1913:—

Sanatorium Benefit	...	...	104
Ambulance Record—1913	...	...	106
Disinfecting Station and Ambulance Service	...	...	107

### MIDWIVES' ACT, 1902:—

Report for the year, 1913	...	...	109
Midwives in Practice	...	...	109
Cases attended	...	...	110
Supervision	...	...	110
Defects found on Inspection	...	...	111
Suspension by Supervising Authority	...	...	112
Removal from Midwives' Roll	...	...	112
Practice by Uncertified Women	...	...	113
Puerperal Fever—1913	...	...	115
The Year's Work	...	...	119

### NOTIFICATION OF BIRTHS ACT, 1907:—

Births Notified, 1913	...	...	121
Action following on Notification	...	...	122
Ailments of Mother and Child	...	...	124
Defects and injury at Birth	...	...	125
Weight	...	...	126
Feeding	...	...	126
Ophthalmia Neonatorum	...	...	129
Co-operation with Public Agencies	...	...	130
Working of the Act	...	...	131
BRISTOL SCHOOL FOR MOTHERS	...	...	137

### TABLES—

TABLE B.—Population, Births, Marriages, and Deaths for 25 Years	...	140
TABLE C.—Zymotic Diseases for 58 years, 1856—1913	...	141-142

# V.

PAGE

## NOTIFICATION TABLES—

TABLE <i>a</i> .—General Table	...	...	143
TABLE <i>b</i> .—Notification and Fatality by Sub-			
Districts	...	...	144
TABLE <i>c</i> .—Infectious Disease Notification since			
1890	...	...	145
Local Government Board Table I.	...	...	146
„ „ „ II.	...	...	148
„ „ „ III.	...	...	149
„ „ „ IV.	...	...	150
„ „ „ V.	...	...	151
Public Health (Tuberculosis) Regulations, 1912			
Summary of Notifications received from 1st			
February, 1913, to 3rd January, 1914—			
Table VI.	...	...	152

## VI.

### PART II.

BRISTOL MUNICIPAL TUBERCULOSIS DISPENSARY—		PAGE
REPORT OF THE TUBERCULOSIS OFFICER, 1913		153
Proportion of Patients found to have Tuberculosis ... .. (Table 1)		154
Age and Sex Constitution ... (Table 2)		155
Results of Examination—		
Sex and Age-Constitution and Diagnosis (Table 3a.)		156
Percentage in each Age-group found to have Pulmonary Tuberculosis (Table 3b.)		157
Age-incidence among a Dispensary population ... .. (Diagram I.)		158
Chart of Attendances (Diagram II.)		159
How patients came to the Dispensary (Table 5)		160
Sleeping Accommodation ... ..		161
Housing Accommodation ... ..		163
Occupations ... ..		167
Results of Sanatorium Treatment ...		173
Tuberculin ... ..		178
CITY HOSPITALS—		
Report of General Medical Superintendent (Administrative) ... ..		181
Isolation Hospital Accommodation in Bristol since 1886 ... ..		183
Report of the Resident Medical Officer, Ham Green Hospital—1913 ... ..		184
Acute Infectious Cases ... ..		184
Fresh Air Treatment ... ..		185
Scarlet Fever ... ..		185
Diphtheria ... ..		186
Enteric Fever ... ..		188
Mixed Infections ... ..		188
Report of the Resident Medical Officer, Ham Green Sanatorium—1913 ... ..		196
Report of the Medical Attendant, Novers Hill Hospital—1913 ... ..		199
Scarlet Fever ... ..		199

## VII.

### PART III.

	PAGE
REPORT OF CHIEF INSPECTOR OF NUISANCES ...	202
Tuberculosis ... ..	204
Notices to Abate Nuisances ... ..	204
Houses Let in Lodgings or Tenement Houses	205
Smoke Abatement ... ..	205
Combined or Party Drains ... ..	205
Slaughter Houses ... ..	206
Housing, Town Planning, &c., Act, 1909 ...	207
Factory and Workshop Act, 1901 ...	207
Offensive Trades ... ..	208
Dairies, Cowsheds, and Milkshops ...	208
Common Lodging Houses ... ..	209
Table I.—Summary of Nuisances, etc. ...	211
,, II.—Twelve Years' Summary of Work ...	212
,, III.—Housing, Town Planning, &c., Act, 1909	213
,, IV.—Dairies and Milkshops, Cowsheds, 1890—1913 ... ..	214
REPORT OF MEDICAL OFFICER OF HEALTH—	
Factory and Workshop Act, 1901 ...	215
Bakehouses ... ..	220

### PART IV.

Meteorological Observations at Bristol, 1913	
Tables, etc. ... ..	227











